The OIL and GAS JOURNAL

PRODUCING REFINING ENGINEERING MARKETING

VOL. 27. NO. 21. TULSA, OKLAHOMA, OCTOBER 11, 1928

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Good Demand for Light Gravity Crude

Highest daily average estimated total production in 1927, week ended July 30, 2,587,105 bbls. Lowest in 1927, Jan. 22, 2,360,789 bbls.

Refiners in Some Areas Having Difficulty in Procuring Enough to Meet Requirement Without Paying Premiums

By Andrew M. Rowley

Highest daily average estimated light oil production in 1927, week ended July 30, 2,102,385 bbls. Lowest in 1927, Jan. 1, 1790,729 bbls.

While production of both light and heavy gravity crude oil last week reached the highest average for this year and the season of maximum gasoline consumption has passed, small refineries in different sections of the country are having difficulty in procuring adequate supplies of light gravity crude, unless they pay premiums, and conditions are so shaping themselves it would not surprise the industry very much were prices of light gravity crude increased in the comparatively near future. Premium paying is an almost sure sign of higher prices. It is felt a number of the larger companies would welcome an advance in crude oil prices for, while they may have considerable good crude in storage, they are reluctant to withdraw it at current prices.

There has been a feeling the situation in California carried a threat of an overproduction of high gravity crude which would make itself felt in the Mid-Continent and eastern areas of the country. Operators and refiners in California, however, are watching the situation there very closely to endeavor to prevent wasteful and uneconomic production and the latest survey of the Pacific Coast territory indicates there is a market for whatever high grade crude is produced.

Conditions in Europe are becoming more stabilized with a resultant greater consumption of petroleum products and this is expected to be a continuing important factor in the domestic situation. In addition domestic consumption this fall and winter undoubtedly will be far greater than last year.

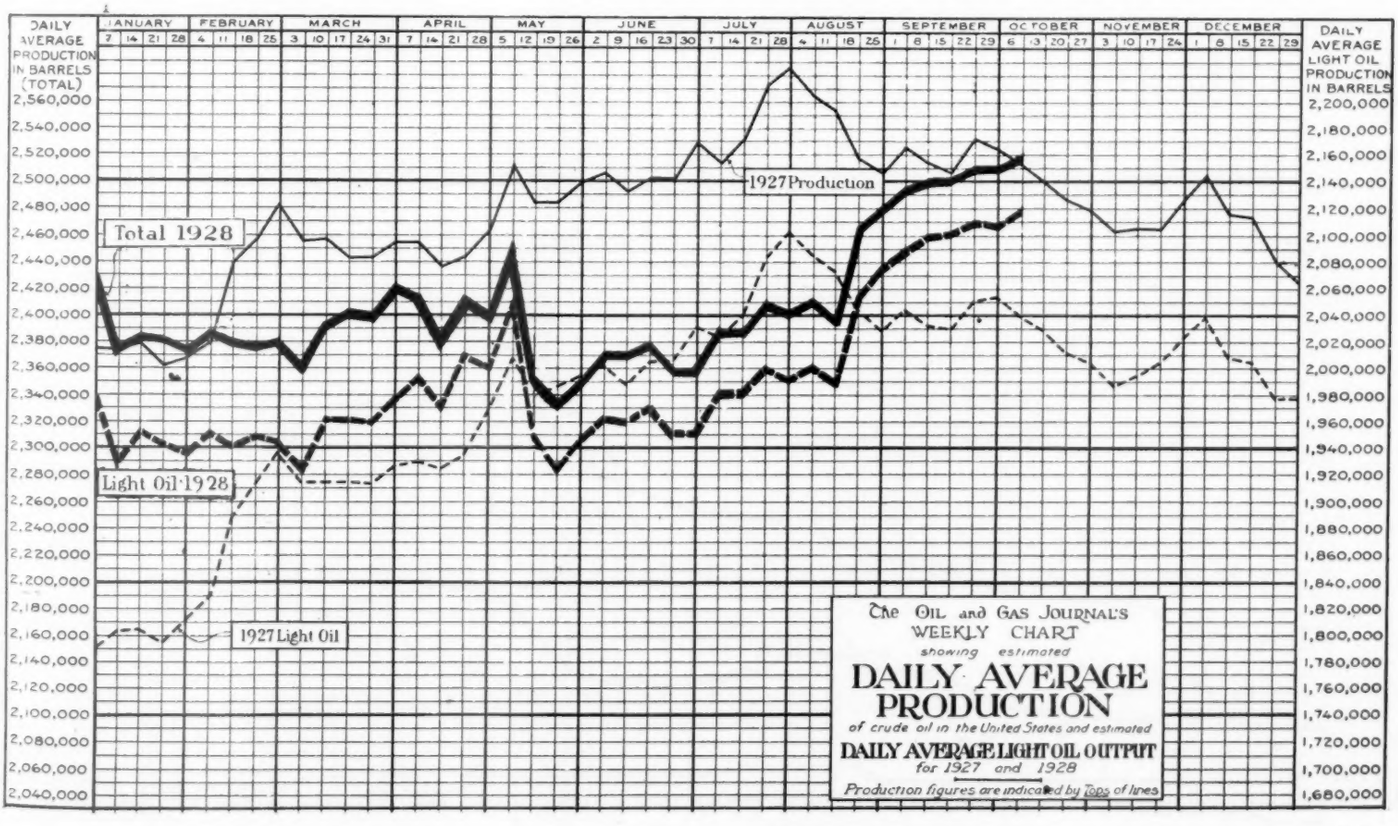
It is not unlikely that eastern operators might get another increase in crude oil prices. Such action would have an influence on the situation in the Mid-Continent area. Considering the season of the year and the big production being maintained, there is comparatively little crude in the Mid-Continent area going to storage. Pipe line extensions being made from the Mid-Continent by different companies will tend to take more crude from that territory, also. Taken as a whole, the situation as it relates to high gravity crude looks good.

PRODUCTION IN THE UNITED STATES

Estimated daily average production of light and heavy gravity oil in the United States for week ended October 6, and a comparison with the previous week follows:

	Oct. 6		Sept. 29	
	Light	Heavy	Light	Heavy
Oklahoma—				
Tonkawa	12,015		12,045	
Burbank	27,530		27,815	
Other Osage Fields	26,905		26,960	
St. Louis-Pearson	119,210		118,770	
Cushing and Shamrock	19,910		19,970	
Bristow	20,720		20,765	
Allen	22,725		22,690	
Seminole	325,350		315,040	
Northern Miscellaneous	111,880		112,395	
Southern Fields	58,320		58,685	
Total Oklahoma	744,565		735,135	
West Texas—				
Hendricks	158,470		163,408	
Yates	78,542		68,521	
Remainder	109,997		109,620	
Total West Texas	347,009		344,549	
North Louisiana	32,290	6,610	32,225	6,640
Arkansas	28,865	55,375	28,750	55,575
North Central Texas	145,528		143,907	
Texas Panhandle	65,310		64,690	
East Central Texas	23,319		22,859	
Kansas	98,410		99,115	
Total Mid-Continent Area	1,485,296	61,985	1,471,230	62,215
Gulf Coast		130,364		132,745
Southwest Texas		29,302		28,933
Eastern	112,250		112,000	
Rocky Mountain Area	81,703		82,127	
California—				
Santa Fe Springs	37,000		37,000	
Long Beach	189,000		191,500	
Torrance	2,000	14,750	2,000	14,750
Huntington Beach	51,500		51,500	
Dominguez	11,000		11,000	
Inglewood	18,000	11,250	18,000	11,500
Ventura Avenue	53,000		52,500	
Seal Beach	26,500		27,000	
Remainder of State	54,000	152,600	54,000	153,100
Total California	442,000	178,600	444,500	179,350
Total United States	2,121,249	400,251	2,109,857	403,243
Grand Total		2,521,500		2,513,100

→ **Total Increase, 8,400 Bbls. Light Oil Increase, 11,392 Bbls.** ←



Oklahoma Gasoline Market Steady

Predictions of Lower Prices Fail to Materialize. Naturals Respond to New Demand With Higher Prices

By W. T. Ziegenhain

Oklahoma refiners have been successful in holding gasoline prices near the peak for the year to date and there is nothing apparent that would indicate a serious "break" in the market over the balance of the year. Some of the smaller plants which do not have company-controlled retail outlets and are dependent entirely on the spot market from day to day find it more difficult to move their production as the winter season is approached but the larger complete organizations continue to quote a top price on spot inquiries. These larger refiners are getting some complaints from jobbers and feel the effects of the lesser demand but they are in a position to better withstand this buying pressure and when necessary are running a portion of their production to storage.

The smaller plants have offered 50 and 100-car lots to exporters to insure a consistent outlet over a period, but there has been only a few sales made on this basis. California gasoline is moving to the Atlantic Seaboard in large volume, replacing part of the business previously done from the Mid-Continent and with the market in the East slowly weakening and plenty material being offered at the Gulf and in California, the Mid-Continent refiners are offered too low a price in comparison with these other areas to make the export offers acceptable.

Unless a decided change is made in the California situation, Mid-Continent refiners will not be able to depend on the export market to move any of their material except at low prices. In some instances refiners have chosen to accept small export orders on that basis and during the past week several sales of this kind were closed in North Texas. In this way no distress gasoline was thrown on the domestic market and a stability in the spot market was affected.

REFINED MARKET BAROMETER

Gasoline prices showed a further decline in all sections during the past week, the most definite evidence of this coming at the close of the week when the Standard Oil Co. of New Jersey posted a one-half cent reduction in its tank car price at Bayonne. Natural gasoline strengthened in the Mid-Continent, but showed very little change in California. The immediate future of that market is viewed with optimism. Kerosene continued strong along the eastern seaboard, but was freely offered in all other sections at lower prices. Fuel oil showed no change. Lubricants moved more slowly, but the only price changes made were slight reductions in a few of the lighter grades of motor oils in Pennsylvania.

Mid-Continent—The larger refiners were able to maintain last week's price level despite a freer offering of material by others. North and West Texas gasolines continued to threaten the Oklahoma market, but thus far all excess material has been run to storage and there is no tendency to dump at a sacrifice. Natural gasoline prices turned upward as a greatly increased demand developed shortly after the first of the month. The balance of the oils remained unchanged.

Atlantic Seaboard—The reduction of one-half cent in the tank car price of gasoline at Bayonne, as posted by the Standard Oil Co. of New Jersey on October 8, definitely pictures the situation along the Atlantic seaboard. Kerosene remains strong with no change in the balance of the market.

Pennsylvania—Lower prices were posted on kerosene and a few of the lighter grades of lubricating oils. There was no change in the balance of the market.

California—Shipments of gasoline to the eastern states continued to keep the market free of excess material and prices were well supported. Fuel oil continues weak.

Chicago—Gasoline generally sold slightly below last week's price level. Kerosene was also freely offered and took a slight price decline. Fuel oil has been moving at a favorable rate, but the expected advance in prices has failed to materialize.

Gulf Coast—A stronger market for the zero cold-test lubricants seems assured through the increased demand, but there have been no price changes.

Naturals Higher

Natural gasoline prices witnessed a "come-back" during the last few days of this week. Manufacturers find their stocks at a low mark, orders have been received in greater numbers and there is less production coming from the Seminole Field than at first thought likely at this period of the year. The Bureau of Mines report for August 1, shows natural gasoline stocks at their lowest point since January 1, 1926, and with a slight increase in production. Some contend the present activity will be of short duration but no one anticipates any decided weakening in the prices over this month at least.

It is the general belief, the natural market will vary within a small margin on either side of the refinery market and that both will show no more than a gradual decline over the winter season.

Kerosene prices took another drop as production continued to add to the already rather heavy stocks. Some refiners have been buying a little material on the spot market from time to time but they now find it difficult to move their own production. With kerosene prices advancing in the East, Mid-Continent refiners are expecting to receive inquiries from exporters. Oklahoma refiners are not depending too strongly on this turn, however, for there is quite a bit of material available in Louisiana and in North Central Texas.

There was practically no change in the balance of the refined oil market. Fuel oil continues very sluggish and the expected play in that market has failed to make itself apparent thus far. Refiners admit there is little chance for any great

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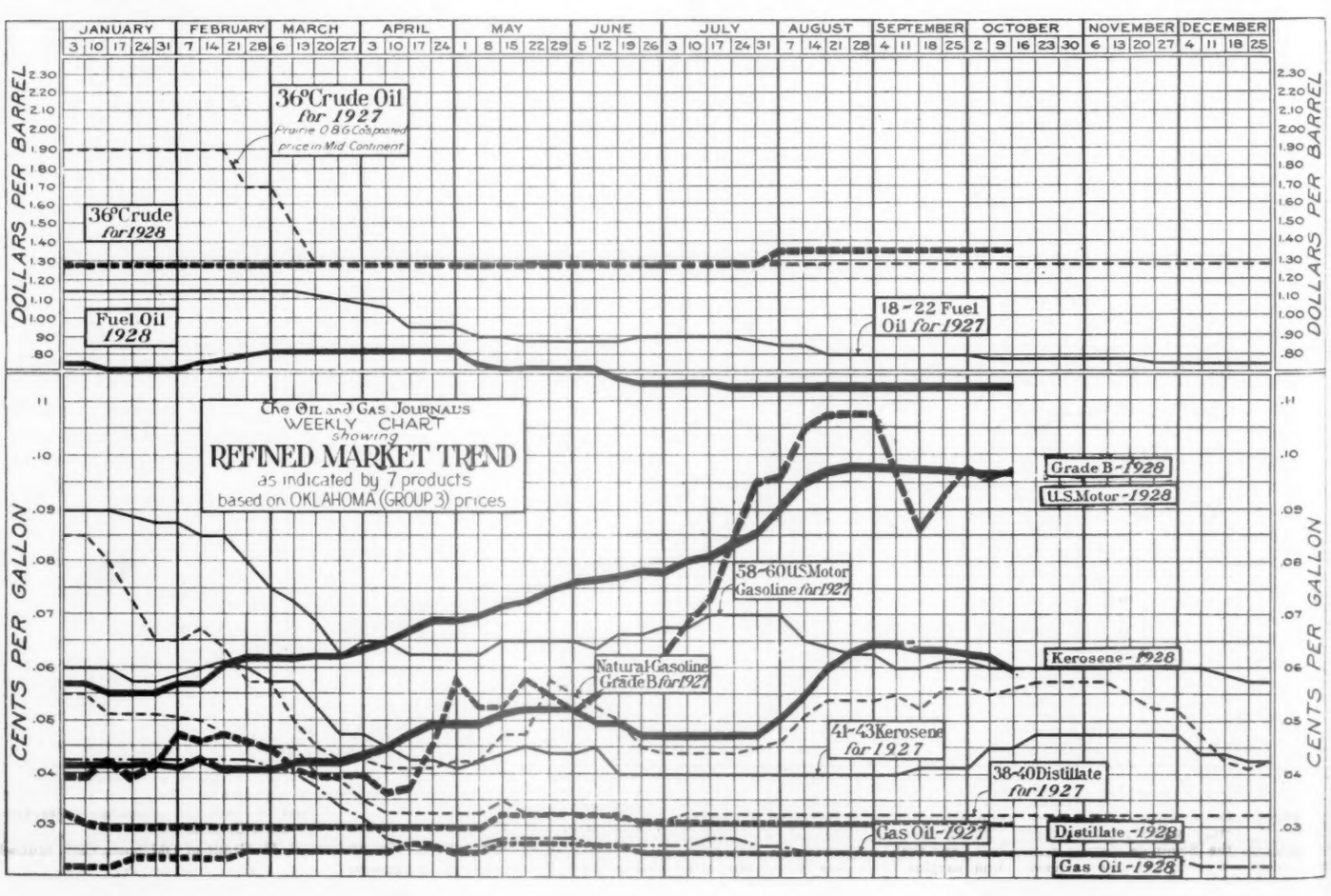

Keen Demand for High Grade Crude

Production of Few Flush Pools Not Sufficient to Offset Tremendous Decline in Others. Oklahoma's Big Drop

By James McIntyre

Production in the fall of 1928 when compared with that of the same period in 1927 shows but little difference in volume but a marked difference in quality and distribution, and when the crude output of the two periods is analyzed it affords good grounds for producers in the "sweet" oil fields, expecting better conditions in the way of prices, but on the other hand it offers no comfort to the refiner and the crude oil purchasing companies that wish to supply their crude needs with a maximum of "sweet" oil.

The daily average production of the United States in the week ending September 29 was 2,513,100 bbls., or 13.885 bbls. per day less than the average daily production for the week ending October 1, 1927, but while this decrease appears to be a small factor when viewed as a total it looms larger in importance when we turn to the matter of how the decrease is distributed. Here are found some very interesting and important changes in production.

In Oklahoma alone production dropped from 809,673 bbls. per day to 735,135 bbls. per day, a falling off of 74,538 bbls. Only two fields listed in The Oil and Gas Journal's weekly estimate of production show an increase, St. Louis-Pearson and Allen. The former has increased from 3,950 bbls. to 118,770 bbls., an increase of 114,820 bbls., and the latter from 2,800 bbls. to 22,690 bbls. This combined increase of 134,710 bbls. is more than offset by the 139,170-bbl. decrease in the Seminole Field alone, while all the other pools listed show declines. The aggregate decline of the Oklahoma pools which showed a falling off was 209,248 bbls. per day.

Slump in Texas Fields

Every Texas division excepting West Texas experienced a drop in production in the course of the year, the most pronounced having been the Panhandle Field which fell off 25,075 bbls. per day. The "sour" oil fields of West Texas showed a 153,870-bbl. increase, from 190,679 bbls. to 344,549 bbls. Arkansas and Louisiana and California declined in output.

Only three important fields in the Mid-Continent increased their output, these being St. Louis-Pearson, Allen and West Texas, and the combined gain of 288,580 bbls. in the three fields named was almost entirely offset by losses of 286,411 bbls. in all the other fields in the same territory.

Now as to quality. The combined production of the pools producing sour oil, fuel oil and the heavier oils of the Gulf Coast the merits of which lie in their lubricating qualities, showed a net increase of 66,883 bbls., but the combined production of the fields producing light, "sweet" oils so highly desired by refiners, decreased 80,768 bbls. per day.

The state of mind of refiners and oil-purchasing companies may well be imagined as they view the dwindling supply of high-grade oil. The fields of North and Central Texas, north Louisiana, Arkansas and Kansas are for the time at least on the toboggan with nothing in sight to promise big new production, but they present no such serious picture as Oklahoma. In that State there is only one field that may some day be on a par with the big pools of the Seminole Field. That field is Allen, which lies in Pontotoc, Hughes and Seminole Counties. Allen is an unknown quantity. It may develop into a big producer from the Wilcox sand north of the Canadian River in Hughes and Seminole Counties. Little River in Seminole County and St. Louis in Pottawatomie County are pretty well defined and are expected to slip downward in the near future while all the other new areas in the Seminole district now known to be oil producing give evidence of being pools of relatively small area, even though some of them may produce largely from a small pay zone.

With the Seminole area thus far drilled out of the way it will be up to the wildcatter to go out and find new production and this may take a long time in the accomplishment because of the depths to which wells must be drilled in most of the favorable-looking territory in the State. Just now more eyes are turned toward western Kansas than toward any unexplored areas in Oklahoma and more active wildcatting is under way and contemplated there than in any other unproven part of the Mid-Continent Field. Most of the leading oil companies in the north end of the Mid-Continent Field have been blocking acreage in western Kansas counties for months and while some of these blocks were taken up as a protective measure in the early stages of the western Kansas movement the territory has gained so in favor that it looks now as if it would constitute the next wildcatting play on a large scale. One township alone in Ellis County has seven wells drilling without a barrel of oil ever having been produced in the township, which is an indication of the confidence back of the western Kansas "play." It may all end in a grand disappointment but until the boom is pricked by failures it will continue to hold the attention of producers seeking new fields to replace the dwindling pools of high-grade crude.

In Oklahoma the big leasing play is south, southwest and west of the general Seminole area, but one of the largest companies has for the past 60 days been buying leases in many parts of the State outside of the already known oil regions and is reported to have invested from $300,000 to $400,000 in wildcat acreage. There have been more leases bought in the past few weeks than at any time in recent years and all based on the fact that we are approaching a time when it will be necessary to find more oil.

The demand for better-grade oil is keen. Companies like the Prairie, Sinclair and The Texas Company are in the market for more oil than they are buying. The

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PRODUCTION IN THE UNITED STATES

Estimated daily average production of crude oil in the United States for the weeks ending Saturday, October 1, 1927, and Saturday, September 29, 1928, showing increases and decreases:

Oklahoma—	Oct. 1, '27	Sept. 29, '28	Inc.	Dec.
Tonkawa	18,770	12,045	....	6,725
Burbank	35,435	27,815	....	7,620
Other Osage Fields	30,730	26,960	....	3,770
St. Louis-Pearson	3,950	118,770	114,820	....
Cushing-Shamrock	21,215	19,970	....	1,245
Bristow and E. Bristow	24,940	20,765	....	4,175
Allen	2,800	22,690	19,890	....
Cromwell	13,170	9,700	....	3,470
Garber	10,785	8,755	....	2,030
Blackwell-Braman	9,080	7,600	....	1,480
Seminole	454,210	315,040	....	139,170
Wewoka	14,135	5,444	....	8,691
Southern Fields	66,020	58,685	....	7,335
Northern Miscellaneous	104,433	80,896	....	23,537
Total	809,673	735,135	134,710	209,248
West Texas	190.679	344,549	153,870	....
North Central Texas	152,915	143,907	....	9,008
East Central Texas	30,617	22,859	....	7,758
Texas Panhandle	89,765	64,690	....	25,075
Louisiana	52,232	38,865	....	13,367
Arkansas	100,555	84,325	....	16,230
Kansas	104,840	99,115	....	5,725
Total Mid-Continent	1,531,276	1,533,445	288,580	286,411
Gulf Coast	139,670	132,745	....	6,925
Southwestern Texas	30,292	28,933	....	1,359
Rocky Mountain Area	79,247	82,127	2,880	....
Eastern Fields	111,000	112,000	1,000	....
California	635,500	623,850	....	11,650
Total United States	2,526,985	2,513,100	292,460	306,345
Decrease in light, "sweet" oils				80,768
Increase in heavy and "sour" oils				66,883
Net decrease				13,885

Ask 750,000 Limit for Oklahoma

Seminole Operators Request Corporation Commission to Increase Volume of Production To Be Permitted

By J. L. Dwyer

Two meetings of Oklahoma oil producers held in Tulsa during the past week resulted in the adoption of a petition which requested the Oklahoma Corporation Commission to make some changes in the personnel of the Seminole Advisory Committee, and to give three oil producers who have no pipe line or refining affiliations, membership in that body. It was also stated that the committee proposed increasing the State's allowable production from 700,000 to 750,000 bbls. daily, providing that the Oklahoma Corporation Commission would agree to a revision of its order of September 8 which established the 700,000-bbl. figure.

The commission was requested to include Charles L. McMahon, oil producer; George A. Dye, vice president of the H. F. Wilcox Oil & Gas Co., and James H. Gardner, president of the Gardner Petroleum Co., in the newly constituted committee.

The meetings were well attended, and the first, held Friday, October 5, was marked by many speeches regarding the matter of oil production, and the economics of the present situation in Oklahoma. Umpire Ray M. Collins, who presided, stated that at the time the daily production of the State was close to 750,000 bbls., and that approximately 50,000 bbls. was surplus, and was being put into storage by the crude oil purchasing companies.

Friday's Meeting

T. B. Slick, head of T. B. Slick, Inc., and one of the largest oil producers in the State, objected to the system of proration which had been in use, and also stated that he favored the oil producers having representatives on the committee who had no pipe line or refinery affiliations, and who were dependent for their profits upon the sale of crude oil production. He mentioned that all the members of the committee were refiners, or were connected with companies which had refining facilities, and said that he felt some producers should be members of the committee. He also objected to the proraitng of oil production, saying that should be left to the producers, who might be desirous of storing their oil in tanks of their own construction.

Following Mr. Slick's remarks regarding the committee, Ralph B. Pringle, vice president of the Independent Oil & Gas Co. and one of the most active members of the Seminole Advisory Committee, tendered his resignation as a member of the committee.

Answering Mr. Slick, E. B. Reeser, president of the Barnsdall Oil Co. and one of the foremost workers for conservation in the State, came to the defense of the committee.

C. C. Herndon, vice president and general counsel of the Skelly Oil Co., stated that his only interest was in the preservation of the principle of curtailment in Oklahoma and in Texas and other fields, and that if the producers of Oklahoma took any action which would result in the abolition of curtailment, the result would be disastrous. He stated the results would react much farther than Oklahoma or Texas, and everyone who gave the economics of oil any thought must appreciate that to disturb the situation would invite trouble of the gravest nature. He said he was opposed to the government control of oil, but voluntary efforts compelled assistance from the Corporation Commission. The present problem was big, Mr. Herndon said, and should be considered after mature deliberation and handled carefully. He suggested that the meeting adjourn, and meet again on Tuesday, October 9 At last Friday's meeting Max Westheimer, oil producer of Ardmore, deplored the fact that the oil producers could not agree voluntarily without the assistance of the Corporation Commission.

J. H. Grant of Oklahoma City, counsel

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Consumption Reaches Billion Mark

August Demand for Crude Oil at Rate of 2,744,000 Bbls. Daily. Gasoline Situation Continues Favorable

By C. O. Willson

The demand for crude oil in United States for the first time in the history of the petroleum industry has reached the point where it can be measured at the rate of 1,000,000,000 bbls. yearly. This yearly figure is based on the August demand as reported by the Bureau of Mines.

The government report for August, which was released during the past week, shows that a total supply (domestic production plus imports) of 2,706,000 bbls. daily was exceeded by a demand (domestic consumption plus exports) which totaled 2,744,000 bbls. This August demand, should it continue, will mean that the oil industry has reached the 1,000,000,000-bbl. goal to which observers of statistical developments in the petroleum world have pointed for several years. The figures on demand contain a small quantity of fuel oil included in the California heavy crude oil.

An increase in demand plus a reduction in imports enabled the industry during August to more than offset an increase of 78,000 bbls. daily in domestic production and for the third consecutive month withdraw from its crude inventories. The daily average crude production in United States during August was 2,511,000 bbls. the highest average of any month this year. This increase was brought about by the flush production of new pools in the Greater Seminole area in Oklahoma.

Fortunately from the standpoint of total supply, crude oil imports dropped from an average of 254,000 bbls. daily in July to 198,000 bbls. daily in August. In the consuming end export increased slightly and this, coupled with a substantial increase in the domestic demand, brought about a reduction in crude oil stocks which totaled 1,101,000 bbls. for the month.

Total Reduction

The August reduction in stocks made a total of 2,940,000 bbls. since May 31. June and July also showing small reductions in crude oil inventories. Previous to June there had been a steady increase in crude oil stocks since October of 1926. The bulk of the reduction in crude stocks since May of this year has been in the area east of California.

In August there was a slight increase in pipe line stocks east of California due to the increased production of the Seminole area. The 1,101,000-bbl. total reduction is accounted for by a decrease of almost 700,000 bbls. in crude storage at refineries east of California and a 600,000-bbl. reduction in California heavy crude oil.

Consumption Saves Market

A study of the government reports for the first eight months this year shows clearly that the steady increase in demand made possible the firming of the crude oil market early in the year with price increases in most of the fields during August. The domestic production of crude oil was maintained with only minor changes from month to month until August, when the increase previously mentioned materialized. Imports have been materially higher so far this year, but they still represent less than 10 per cent of the total supply in this country.

In January with a total supply, 175,000 bbls. less than in August over 10,000,000 bbls. of crude oil were added to storage. The total demand at that time was over 500,000 bbls. less than during August. Since that time consumption has increased more rapidly than the supply, bringing the improved market situation applying to crude oil and practically all of the refinery products with the exception of fuel oil and gas oli.

Several observers have pointed out that with the main gasoline consuming ended there will be a decline in the crude oil demand instead of a month-to-month increase as was true the first eight months of this year. While it is probable there will be some contraction in crude oil demand during the winter months, it is reasonably certain there will not be the curtailment in refinery operations that developed last winter. As has been pointed out in these monthly reviews in previous issues, refiners in the late fall and winter of 1927 and 1928 made drastic reductions in their crude oil runs to stills, the object being to remedy a market situation which had been featured with low gasoline prices and losses in plant operation.

This situation has been remedied, as is apparent from a study of the data covering gasoline consumption and production. To prevent excessive accumulations of gasoline some restriction in refinery operations during the coming winter months is probably necessary and has already materialized at a few refineries, but most owners will find it expedient to maintain their operations at a higher rate than last year.

Crude Runs to Stills

Crude oil runs to stills at refineries in August totaled 2,632,600 bbls. daily, the highest on record. This was an increase of 29,000 bbls. daily over the July figure and 342,000 bbls. daily over August of last year. The daily August crude runs to stills consisted of 2,406,000 bbls. domestic crude and 226,000 foreign crude. This was the first reduction in foreign crude oil this year. The daily average of foreign crude to stills in July was 234,400 bbls. A one-month reduction in the quantity of foreign crude oil to stills is too short a period to draw any conclusions as the upward trend may be resumed in the remaining months of the year. Should the August reduction be representative of future operations it will tend to aid the domestic crude oil market.

Included in the total crude oil run to stills at refineries is the natural gasoline purchased by refiners. This totaled 3,044,000 bbls. for August or 98,200 bbls. daily, a new record in refinery utilization of natural gasoline. This explains the favorable market situation that prevailed for natural gasoline during August and September.

Refinery Gasoline

From these peak crude runs to stills a total of 34,037,000 bbls. of gasoline was obtained or an average of 1,098,000 bbls. daily. To this supply were added 479,000 bbls. of crude oil imports, or an average of 15,000 bbls. daily. The domestic demand for gasoline which passed 1,000,000 bbls. daily in July for the first time increased to 1,069 000 bbls. daily in August. To this was added 147,000 bbls. daily of exports, making a total demand of 1,216,000 bbls. daily or more than 100,000 bbls. greater than the total supply.

This excess of demand over supply brought a reduction in gasoline stocks of over 3,000,000 gallons for the month so that on August 31 the inventories at refineries totaled 27,197,000. The government in its report points out that the supply on hand August 31 of this year represented 22 days' supply, while there were 31 days on hand a year ago.

Many refineries in all parts of the country at the end of August and during September had practically no gasoline on hand and were forced to depend on current output and purchases from other refineries to take care of their customers. This situation means that refiners as a unit entered the gasoline storage season which generally starts in October in the best statistical situation they have had in several years. From a market viewpoint this gives a flexible control which is interpreted to mean that prices for the next few months will be maintained at relatively high levels, although some reduction in the peak market of the past few weeks is expected.

Fuel and Gas Oil

Unfortunately the government figures do not cover all phases of the fuel oil and gas oil situation, there being no figure covering domestic demand for the reason that some California heavy crude oil is included in the fuel oil data. These heavy end fractions of crude oil have been the only products for which a satisfactory market has not been maintained during the past few months.

In the accompanying table the total demand and the domestic demand have been estimated. The percentage increase in demand is normal but the available supply due largely to the increasing production of low gravity West Texas and foreign crude oils has resulted in a 10.2 per cent increase in stocks during the past year. A total of 11,039,000 bbls. of this fuel oil and gas oil have been added to the storage at refineries since the first of the year. This total has been greater than the reduction in gasoline stocks.

This accumulation of fuel oil and gas oil inventories which has been steady during the past two years is the most serious problem confronting the refining industry at this time. Fortunately they are the lowest priced products of the refinery list and this along with the fact that no evaporation losses are suffered in the storage of the product tends to minimize the burden for the refining industry.

Increased Consumption

The exceptionally low prices will probably result in an increased consump

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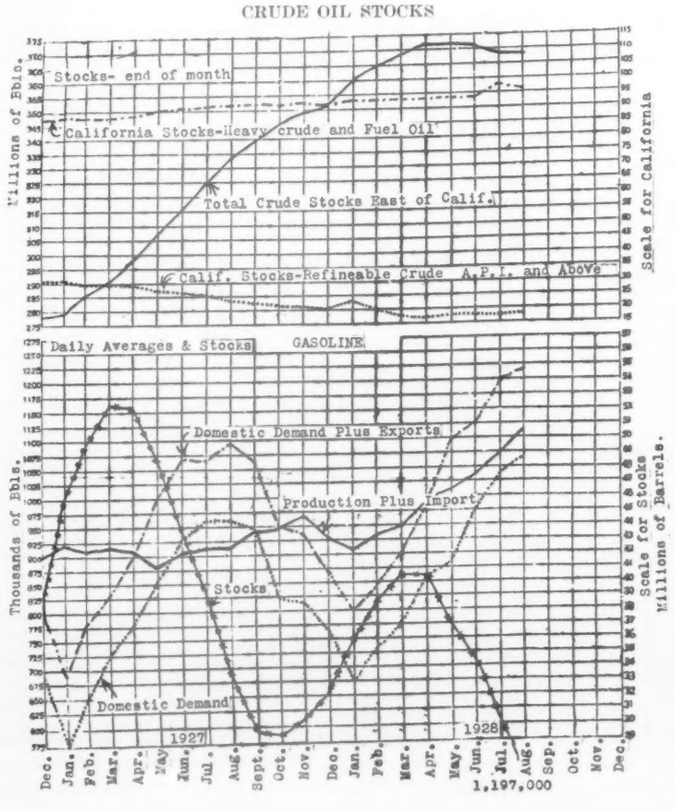
CONSUMPTION AND STOCKS OF REFINED PRODUCTS

Data given in thousands of barrels covering eight months of 1928. Percentage increase is based on comparison with same period in 1927.

Total demand	Pct. increase	Domestic demand	Pct. increase	Exports	Pct. increase	Stocks 8-31-28	Pct. inc over 8-31-27
			Gasoline				
249,784	10.8	213,784	9.1	36,431	21.4	27,197	*18.8
			Kerosene				
38,977	6.1	24,088	*.2	14,889	10.3	8,922	2.6
			Lubricants				
23,291	10 9	15,586	7.4	7,703	18.6	7,711	2.9
			‡Petroleum Wax				
501,291	25.0	214,118	16.0	287,173	32.6	79,136	*56.2
			Fuel Oil and Gas Oil				
†270,712	6.2	†239,406	7.4	31,306	*2.4	134,818	10.2

†Estimate; figures include some California heavy crude oil.
*Decrease.
‡Thousands of pounds.

CRUDE OIL AND GASOLINE AT END OF AUGUST


CRUDE OIL STOCKS
Millions of Bbls.
Stocks- end of month
California Stocks-Heavy crude and Fuel Oil
Total Crude Stocks East of Calif.
Calif. Stocks-Refineable Crude A.P.I. and Above
Scale for California
Daily Averages & Stocks
GASOLINE
Thousands of Bbls.
Domestic Demand Plus Exports
Production Plus Imports
Stocks
Domestic Demand
Millions of Barrels.
Scale for Stocks
1927
1928
1,197,000
Dec. Jan. Feb. Mar. Apr. May Jun. Jul. Aug. Sept. Oct. Nov. Dec. Jan. Feb. Mar. Apr. May Jun. Jul. Aug. Sep. Oct. Nov. Dec.

Oil Exposition Grounds Transformed

Concrete Walks and Chat Surfacing Take Place of Mud. Nothing Overlooked in Providing for Visitors and Exhibitors

By Thomas F. Smiley

If anything has been overlooked in the effort to make the International Petroleum Exposition of 1928 a downright satisfying success—anything that might add to the convenience or comfort of visitors, anything that might increase the educational value of the project—it would be interesting to know what that thing is. One wisecracker said the management might have installed automatic shoe polishers and whisk brooms at the exits just as a final touch of perfection in the exposition's appointments for its guests. But the complete and absolute answer to that fool suggestion is that the last thing in the world a departing visitor will want is the ministrations of a shoe brush or a whisk broom. Right there is one of the things that should be mentioned before it is forgotten, the cleanliness of the place.

For instance, there was that mud of more or less blessed memory. You remember how visitors to the exposition last year acquired a sort of goose step as a result of picking their way about the grounds? Well, all that mire where men hopped, skipped, pranced, tetered and swore in their attempts to pick out the high spots, has gone. In its place is a system of concrete sidewalks and nicely graded and drained expanses of chat. Mud? If for any reason you feel that you must have some mud, you'll have to go outside the grounds to get it. Even after that 2-inch downpour last Saturday and Sunday there wasn't a sign of mud.

The Building and Grounds Committee of the Exposition has spent $45,000 since last year's show in improving the plant and remedying the defects that marred the pleasure of visitors and interfered with the plans of exhibitors.

A new water system has been installed, with 16, 18 and 20-inch mains, insuring ample water and adequate pressure for operation of rotaries and various engine exhibits. Last year some of the demonstrations that required water were hampered by the inadequacy of the supply. Drinking fountains serving pure Spavinaw water have been put in all buildings, and at convenient points outside.

A new high and low-pressure gas system is another addition and the whole exposition plant has been rewired for electrical light and power. Light, gas, water and power service connections have been made in every exhibition booth and hook-ups are ready for exhibitors outside the buildings.

Half Mile of Concrete Sidewalks

The whole exposition property has been graded, drained and sewered, and a half-mile of concrete sidewalks 8 to 20 feet wide and 7 inches thick has been laid. The concrete used was a 4-2-1 mix approved by experts in cement products. A concrete walk 20 feet wide and 300 feet long runs in front of the Arcade that connects the Oklahoma and Texas Buildings. Another similar walk, 20 feet wide and 300 feet long, in the center of the open-air space, extends between the center doors of these buildings. These walks run north and south. Another 20-foot walk, 180 feet long, running east and west, intersects the 300-foot walks and has the Scientific and Technical Building at one end and The Oil and Gas Journal booth at the other. A 16-foot walk, 380 feet long, runs along the south side of the Texas Building and another of similar dimensions, runs along the north side of the Oklahoma Building.

Two 8-foot walks, 600 feet long, extend north from the Twenty-first Street entrance to the Red Cross station and rest rooms at the other side of the grounds. One of these skirts the east side of the main court or plaza. It passes the exhibit buildings of the Emsco Derrick & Equipment Co., Titusville Iron Works Co., and Continental Supply Co., the official exhibit well, the Drake well and the spring pole. The other, on the west side of the court, passes the restaurant, the buildings of the National Supply Co., Frick-Reid Supply Co., Oil Well Supply Co., and Franklin Valveless Engine Co., and the Administration Building.

Solid concrete has been laid at the south end of the court from the Oklahoma Building to the Restaurant Building. There is a similar stretch of concrete from the Administration Building to the north entrance to the grounds.

The space between sidewalks has been covered with chat, rolled and treated with calcium chloride to lay dust. At the Twenty-first Street entrance is a space 90 by 600 feet, reserved for private parking. The west end of this space is for the cars of exposition officials and directors. The rest is for exhibitors. This ground has been graded and drained, then covered with 6 inches of over-size rock topped with chat. This was rolled and treated with calcium chloride. Across Twenty-first Street is 160 acres of pasture. This is to be used by the public, without charge, for parking of automobiles. This free parking space is an innovation, 25 cents having been charged formerly, the money going to the Tulsa State Fair Association. The public parking grounds and those for exhibitors and officials will be floodlighted and policed, at the expense of the exposition management.

Floodlighted and Decorated

The entire exposition ground has been floodlighted also and great streamers of colored lights will be strung from the tops of derricks, telephone poles and other points. Flags and pennants will flutter from high places also, so that day and night the grounds will be aflame with color. The interiors of buildings have been decorated with flags and bunting, giving a holiday aspect to the entire place.

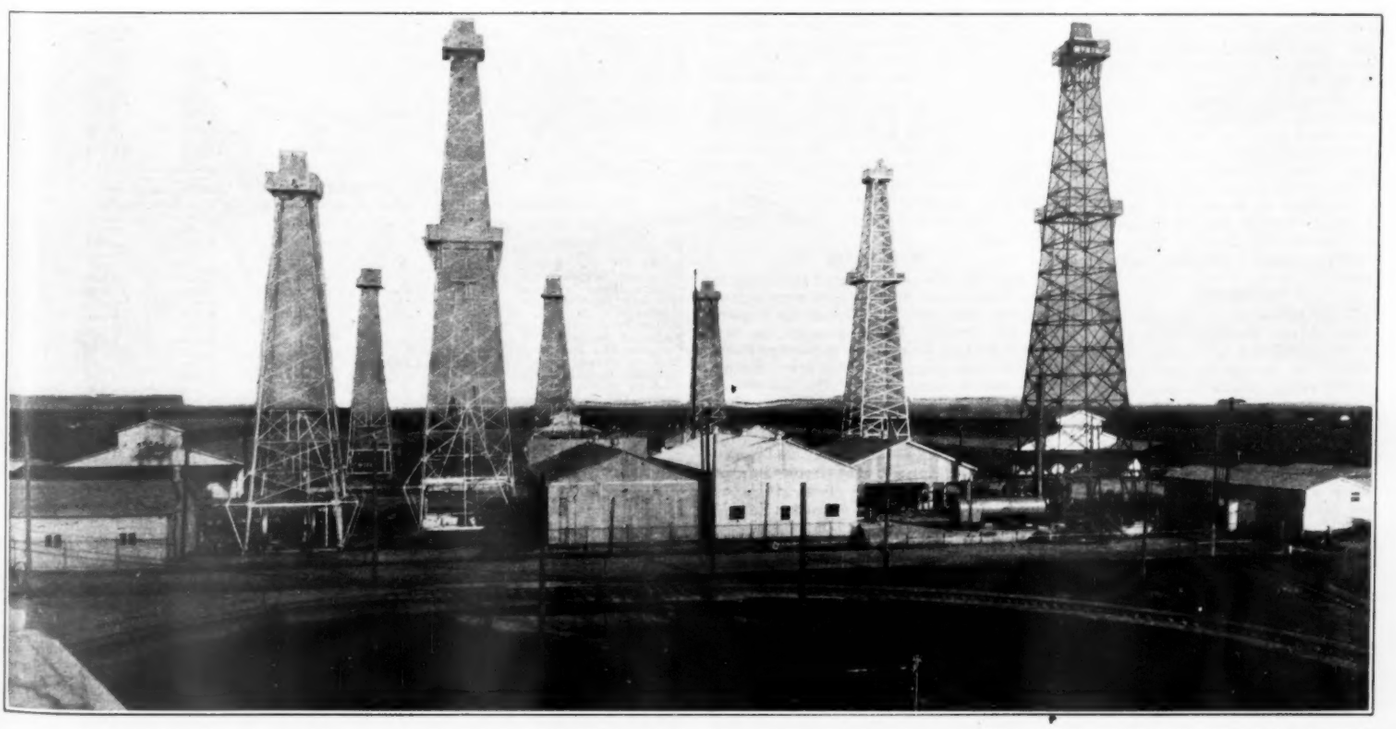
Toilet and wash rooms in the basement of the Scientific and Technical Building, at the east side of the grounds, have been remodeled, increasing their facilities. New rest rooms for men and for women have been established at the west side. In the women's room will be maids and in the men's room porters. Comfortable chairs and drinking fountains have been provided. Special thought has been given to the comfort of women with children.

The new residence for the superintendent of the grounds is one of the show places of the exposition. The two front rooms and the bath room have been converted into a Red Cross station, an emergency hospital and day nursery. The exposition last year handled more than 600 children and it took care of 50 first aid cases, these latter being minor accident cases and sudden illness or fainting spells. Trained nurses and attendants will be in charge. An ambulance will be on the ground constantly. The Tulsa Fire Department will have fire apparatus and a crew of firemen present throughout the exposition.

There will be a Michaelis cafeteria in a permanent building, 60 by 60 feet, well lighted and pleasantly located. The cafeteria will be operated like the others of the same ownership in Tulsa, Muskogee and Okmulgee. The same prices will be charged as at the city establishments, and patrons will pay for just what they get. A cigar stand will be conducted at the entrance to the Scientific and Technical Building. At the main entrance of the Oklahoma Building there will be

(Continued on Page 107)

LOOKING AT PETROLEUM EXPOSITION GROUNDS FROM THE WEST



—Photo by Stithem.

When the big oil show opens October 20 there will be 12 derricks in place. The street car company extended its tracks up to the grounds.

Mid-Continent Runs Slightly Less

Total Decrease 16,450 Bbls. Compared With September Report. Decline, However, Was In Relatively Few Plants

By W. T. Ziegenhain

Refinery crude runs in the Mid-Continent area will show a slight decrease in practically all sections during October with a total decrease of 16,450 bbls. daily compared to those of September. The operations of a majority of the plants remain unchanged, the decrease in runs being due to a relatively few plants. For the first time the West Texas refiners have shown a curtailment of their runs. This is explained as due principally to the sluggish fuel market. Of the various sections, Oklahoma shows the greatest decline, amounting, however, to but 5,670 bbls., practically all of which is due to the lower runs at the Marland Refining Co.'s plant in Ponca City. The Marland runs were decreased from 24,500 bbls. during September to 18,000 for October.

The North Central Texas plants composed the only group to show an increase. This was very slight, however, and in general the operations may be said to have shown no change. North Louisiana refiners decreased their runs 4,800 bbls. and may be taken as a reflection of the weaker export gasoline market. Instead of exporters taking the excess production from Louisiana, North Central Texas and Oklahoma as had been the case over the first seven months of the year, their purchases were switched to California in a great many cases and in an attempt to maintain the past price level a curtailment of runs has been encouraged.

Many contend the present rate of crude runs is too high and believe the curtailment shown for October represents but a small part of what should be done over the balance of the year to keep from building up a great surplus of gasoline during the winter and hazard the stability of the market for next year. The benefits of a program of curtailment of runs were in full evidence this year and this is realized but with prices continuing to be maintained at about the peak thus far this year, there is a hesitancy on the part of refiners to order a reduction of runs just yet. What may be done over the balance of the year remains a question but a decided drop in the runs is hoped for and anticipated by refiners.

For the last several months there has been a trend toward resuming operations in shut-down plants and the addition of new plants. During October one plant will resume operations while another will be shut down, leaving the number of older operating plants the same. The only new plant to be added to the operating list is that of the Big Spring Refining Co. at Big Spring, Tex., which will average about 2,100 bbls. daily over the month.

Oklahoma

With the exception of the reduction in the runs at the Marland Refining Co.'s plant, as mentioned previously, there is practically no change in the operations of the individual plants in Oklahoma. A continuation of the high rate of cracking operations is apparent and several of the companies are investigating the various cracking processes with the idea of increasing their operations through the installation of additional units. With fuel oil and gas oil prices showing no promise of advancing materially for many months, cracking is again being made the center of attention among Mid-Continent refiners who do not already have sufficient capacity to crack all of the gas oil and fuel oil manufactured. During September the Texas Pacific Coal & Oil Co. resumed the operation of its Dubbs stills at Wynnewood.

North Central Texas

North Central Texas refiners were the only operators to show an increase in their crude runs but the amount is very small. Several of the larger plants decreased their runs 1,000 or 2,000 bbls. and this decrease was equalized by increases in a number of smaller plants. During the latter part of October it is possible that a revision downward in the runs at the smaller plants will be made as the colder season is entered in which case the total runs for the month may average below those of September. Cracking operations are being carried on at a maximum rate in the North Central Texas area also. Various minor construction jobs are going on in the plants in this territory. At the Primrose Refining Co.'s plant at Wichita Falls four bubble towers are being added to the crude battery. The number of operating plants in this territory was reduced by one when the Star Refining & Producing Co. shut down its plant at Fort Worth during September.

West Texas

Another new plant started operating in the West Texas area as fires were lighted at the Big Spring Refining Co.'s plant at Big Spring. Crude runs at the new plant will be maintained to average about 2,100 bbls. daily over October. Except for the decrease in the Humble Oil & Refining Co.'s runs at its McCamey plant from 18,000 bbls. to 11,000 bbls. there was a general upward revision of runs. Another plant will be ready to operate within a short time, that of the Burford Refining Co. at Pyote, Tex. It is expected to be ready for operation by November 15.

North Louisiana

The operations in the north Louisiana refining area remain practically unchanged with the exception of the reduction in the runs at the Louisiana Oil Refining Corp.'s plant at Shreveport, which have been cut from 22,000 bbls. during September to 18,000 bbls. for October.

Arkansas

The Arkansas refinery runs will show a small reduction during October, the change being the result of a general program rather than the result of a large decrease at any one plant.

Kansas

As in the case of Arkansas, the Kansas refinery crude runs show a slight reduction in the operations for October. It is the result of a general decrease in practically all plants.

RUNS TO STILLS AT MID-CONTINENT REFINERIES

1926	
April 1	368,210
May 1	391,355
June 1	415,450
July 1	410,070
August 1	407,475
September 1	419,995
October 1	408,975
November 1	417,575
December 1	403,450
1927	
January 1	493,625
February 1	418,595
March 1	418,920
April 1	401,860
May 1	407,355
June 1	426,170
July 1	428,075
August 1	457,800
September 1	422,150
October 1	420,955
November 1	426,654
December 1	417,455
1928	
January 1	415,125
February 1	418,275
March 1	427,145
April 1	451,225
May 1	479,225
June 1	487,135
July 1	506,310
August 1	543,625
September 1	563,270
October 1	546,820

MID-CONTINENT REFINERY OPERATIONS

(Based on operations October 1, 1928, and September 1, 1928)

Districts—	No. of plants Oct. 1	Daily crude cap. (bbls.)	Daily crack. cap. (bbls.)	Plants oper. Oct. 1	Runs to stills Oct. 1	Plants oper. Sept. 1	Runs to stills Sept. 1	October Decrease
Arkansas	8	38,800	9,700	8	27,950	8	29,400	1,450
Kansas	18	136,500	68,800	15	102,300	15	105,100	2,800
No. Louisiana	6	55,600	16,800	6	44,250	6	49,050	4,800
Oklahoma	47	291,500	103,550	43	208,350	43	214,020	5,670
No. & Cen. Texas	36	159,700	25,200	32	105,750	32	104,700	*1,050
West Texas	21	89,250	2,000	21	58,220	20	61,000	2,780
Total	136	771,350	226,050	125	546,820	124	563,270	16,450

*Increase.

REFINERY OPERATIONS IN OKLAHOMA

(Plants which have been in operation during the past year)

Name and Location—	Daily capacity	Runs Oct. 1	Runs Sept. 1
Anderson-Prichard Oil Corp., Cyril	2,500	1,800	1,900
Barnsdall Refineries, Inc., Barnsdall	6,000	3,500	3,500
Barnsdall Refineries, Inc., Okmulgee	10,000	4,000	4,000
Bell Oil & Gas Co., Grandfield	4,500	2,100	2,000
Bolene Refining Co., Enid	5,000	4,000	4,000
Canfield Refining Co., Yale	400	(*)	(*)
Champlin Refining Co., Enid	16,000	13,000	12,000
Continental Oil Co., Sapulpa	10,000	4,000	4,000
Cushing Refining & Gasoline Co., Blackwell	1,800	1,700	1,700
Cushing Refining & Gasoline Co., Cushing	3,500	2,300	2,300
Empire Oil & Refining Co., Cushing	5,000	4,700	4,700
Empire Oil & Refining Co., Okmulgee	4,000	4,000	4,000
Empire Oil & Refining Co., Ponca City	7,500	7,500	7,500
Garber Refineries, Inc., Garber	3,500	3,300	3,300
Gilmer Oil Co., Ringling	3,000	1,200	1,500
Globe Oil & Refining Co., Blackwell	7,500	5,000	5,300
Globe Oil & Refining Co., Cushing	8,000	8,000	8,000
Illinois Oil Co., Cushing	3,000	2,200	2,000
Imperial Refining Co., Ardmore	5,000	2,000	1,500
Independent Oil & Gas Co., Okmulgee	5,000	3,300	3,300
Interocean Refining Co., Bristow	4,000	(*)	(*)
Johnson Oil Refining Co., Cleveland	6,000	5,800	5,800
Marland Refining Co., Ponca City	30,000	18,000	24,500
Mid-Continent Petroleum Corp., West Tulsa	40,000	25,000	25,000
Northwestern Refining Co., Tonkawa	2,500	3,000	3,000
Oil State Refining Co., Allen	800	300	400
Peppers Gasoline Co., Covington	1,000	850	800
Pierce Oil Corp., Sand Springs	8,000	7,200	7,000
Producers Oil Co., Bristow	2,500	800	800
Producers & Refiners Corp., West Tulsa	6,000	3,200	3,500
Pure Oil Co., Ardmore	5,000	2,000	2,000
Pure Oil Co., Muskogee	9,000	7,000	7,000
Riley Petroleum Co., Bristow	1,000	(*)	(*)
Rock Island Refining Co., Beckett	2,500	1,800	1,800
Sayre Oil & Refining Co., Sayre	500	(*)	(*)
Shaffer Oil & Refining Co., Cushing	10,000	10,000	10,000
Sun Oil Co., Yale	5,000	4,900	4,900
Sinclair Refining Co., Muskogee	1,000	600	750
The Texas Company, West Tulsa	15,000	13,700	13,500
Texas Pacific Coal & Oil Co., Wynnewood	2,500	2,000	2,000
Tidal Refining Co., Drumright	10,000	10,000	10,000
Transcontinental Oil Co., Boynton	2,500	2,000	2,000
Transcontinental Oil Co., Bristow	5,000	4,500	4,500
Western Oil Corp., Beckett	2,000	1,200	1,200
White Oak Refining Co., Allen	3,000	2,500	2,500
Wirt Franklin Petroleum Corp., Ardmore	4,000	2,400	2,870
Yale Oil Corp., Yale	1,500	1,000	1,000
Total	291,500	208,350	214,020

*Shut down.

REFINERY OPERATIONS IN KANSAS

(Plants which have been in operation during the past year)

Name and Location—	Daily capacity	Runs Oct. 1	Runs Sept. 1
Barnsdall Refineries Inc., Wichita	4,000	3,000	3,000
Derby Oil Co., Wichita	6,000	3,500	3,500
Derby Oil Co., Russell	2,500	(*)	(*)
Eldorado Refining Co., Eldorado	3,500	2,500	3,000
Golden Rule Refining Co., Wichita	1,500	1,000	1,000
Kanotex Refining Co., Arkansas City	10,000	6,000	7,500
Manhattan Oil Co., Kansas City	6,000	5,300	5,500
Miller Petroleum Co., Humboldt	2,000	(*)	(*)
National Refining Co., Coffeyville	6,500	6,000	6,000
Peerless Oil Refining Co., Chanute	3,000	2,200	2,200
Roxana Petroleum Corp., Arkansas City	22,000	22,000	20,000
Sinclair Refining Co., Coffeyville	10,000	9,500	10,000
Sinclair Refining Co., Argentine	9,500	8,500	8,500
Skelly Oil Co., Eldorado	23,000	13,300	14,100
Standard Oil Co. of Kansas, Neodesha	12,000	10,500	10,500
Vickers Petroleum Co., Potwin	3,500	2,000	2,300
White Eagle Oil & Refining Co., Augusta	10,000	7,000	5,000
Wilhoit Refining Co., Joplin, Mo.	1,500	(*)	(*)
Total	136,500	102,300	105,100

*Shut down.

REFINERY OPERATIONS IN NORTH CENTRAL TEXAS

(Plants which have been in operation during the past year)

Name and Location—	Daily Capacity	Runs Oct. 1	Runs Sept. 1
Amarillo Producers & Refiners Corp., Isom	2,000	1,250	1,500
Amarillo Refining Co., Amarillo	6,000	2,500	2,750
American Refining Properties, Wichita Falls	6,000	4,000	4,500
Continental Oil Co., Wichita Falls	6,000	4,000	4,000
Dale Oil & Refining Co., Electra	2,500	2,000	2,200
Empire Oil & Refining Co., Gainesville	5,000	3,500	3,600
Falls Refining Co., Wichita Falls	1,500	1,000	1,000
Gulf Refining Co., Fort Worth	10,000	7,500	9,500
Hagaman Refining Co., Tiffin	2,000	250	200
Iowa Park Producing & Refining Co., Iowa Park	2,500	1,400	1,500
Kent-Middleton Refining Co., Angus	4,000	2,200	1,800
Kent-Macmillan Refining Co., Minerva	2,000	900	....
Macmillan Petroleum Co., Isom	6,500	6,500	6,400
Magnolia Petroleum Co., Fort Worth	12,000	8,000	6,000
Magnolia Petroleum Co., Corsicana	5,000	3,400	3,500
Noble Oil & Gas Co., Burkburnett	3,500	3,000	2,900

(Continued on Page 110)

Magnetometer Study of State of Kansas

Analysis of Relation Between Known Productive Areas and Magnetic Survey as Aid in Locating Other Favorable Areas

By L. Spraragen

Because of the widespread interest exhibited in the magnetometer work for prospecting for oil structure it is the writer's opinion that a general magnetometer survey over a large area when compared with the known regional geology of that area, should shed some light on the relation between the magnetic anomalies and geologic structure.

By making a general analysis of this nature and determining a general relation, if one exists, then the rule so determed can be applied to detailed work to help the geologist in evaluating a detailed magnetometer survey covering several townships and give him additional valuable information to enable him to choose the most desirable acreage.

In addition to this, such a survey ought to show other areas not already proven, where, because of similarity in the magnetic reliefs, of these unproven areas with those obtained on proven areas, it would be advisable to make a detailed investigation.

With this in view, the writer has prepared a vertical magnetic intensity map for the State of Kansas, based on the United States Coast and Geodetic magnetic data. It is hoped that by a careful study of this map the known geology that an actual determination can be made of the value of doing magnetometer work in some unproven areas of this State.

To carry out this program of analysis considerable geological information has been taken from the Kansas State Geological bulletins and compared with the magnetometer results. In addition to this the writer has attempted to analyze the relation between the known productive areas and the magnetic survey in order that other favorable areas, as yet undeveloped, can be located.

MAGNETIC SURVEY OF KANSAS

This is the third in a series of articles by Mr. Spraragen on the use of the magnetometer in oil field exploration and the first portion of an article giving a complete magnetic survey of the State of Kansas.

Subsequent publications will contain numerous profile maps showing the variations in vertical magnetic intensity.

The entire series, covering six states, will offer the most thorough study of the various territories with an analysis of the relation between producing areas and the magnetic survey as an aid in locating other favorable areas.

[1]The oil fields of Kansas may be conveniently grouped from a geographic standpoint into four districts.

1. The first, which may be termed the eastern Kansas shallow district, includes the fields southeast of a line drawn through Lawrence, Ottawa, Yates Center and Sedan. The principal oil-producing counties are Douglas, Miami, Franklin, Anderson, Allen, Linn, Bourbon, Wilson, Neosho, Chautauqua, Montgomery and Labette. In this area the lower and middle strata of the Pennsylvanian system are exposed at the surface and the oil-containing sands which are found in these rocks are reached at depth of 100 or 200 feet up to 1,500 feet. The average depth of wells in this district is 700 feet. The rocks slope gently downward in a direction slightly north and west, so that a given sand or formation is encountered at increasing depths below the surface in going from east to west. Most of the oil in the shallow district is obtained from more or less lenticular sand bodies in the lower part of the Pennsylvanian; a smaller part is obtained from the underlying Mississippian and older rocks, chiefly in Chautauqua and Montgomery Counties. In general the accumulation of the oil in pools appears to depend less on structural conditions than the porosity and thickness of the sands. Some of the sands, especially in Anderson and northern Allen County, are known to be very elongate, narrow "shoestrings," which have the form of a channel—filling in the associated shale. They represent stream valleys that were carved in the early Pennsylvanian rocks and filled with sand before the deposition of the overlying strata. In other cases there are lenticular sands that appear to be ancient sandbars which existed along the shore line of the sea which occupied eastern Kansas in early Pennsylvanian time. The rock strata are only slightly affected by minor folding, and in some places oil occurs in synclines as well as on anticlines.

The total production of this district is small as compared with the deeper fields which lie to the west. However, the small expense of drilling a well largely offsets the hazards in exploration for new fields, and since it has been found that productivie territory often lies in a region that has apparently been pretty fairly drilled there is prospect of continued activity in the shallow fields, especially under favorable conditions.

Eastern Kansas

2. The second district, which may be designated the eastern Kansas deep district, comprises a belt including western Chautauqua and Elk, eastern Cowley, Greenwood, eastern Butler, and southern Lyon Counties. In this region the average depth to the producing horizon is around 2,000 to 2,500 feet. The oil comes chiefly from sands in the lower part of the Pennsylvanian, but in certain districts is obtained also from the underlying Mississippian limestone. Greenwood County is the main producer, and it is of interest that the prolific "golden lane" trending northwest across the county from Sallyards, was discovered after widespread and apparently exhaustive drilling. The sands in this area are lenticular in cross section and extend in a nearly straight line for more than 40 miles. Like some of the sands farther east these appear in part to represent bar deposits along the shore of the sea of early Pennsylvanian times. The average production of the wells is very much greater than in the shallow district. * * * Extensive drilling in northern Greenwood and southern Lyon Counties in the effort to extend the area of production has not been wholly successful, although several outlying pools have lately been found. It seems probable from the character of the sands that extensions may be located in parts of eastern Lyon and Coffey Counties, and there are probably undiscovered productive areas in Greenwood, Chase, east Butler, and Cowley Counties. It is noteworthy that the location of the main producing area is not indicated at the surface by a distinct anticlinal flexure of the beds. Knowledge of the actual conditions underground obtained by careful subsurface study of the well records, cuttings from the wells and other data is very important in planning exploratory work.

Granite Ridge

3. The third oil-producing area may be designated the Granite Ridge district. This includes the fields along the trend

(Continued on Page 134)

[1]Taken from the State Geological Survey of Kansas Bulletin No. 13.

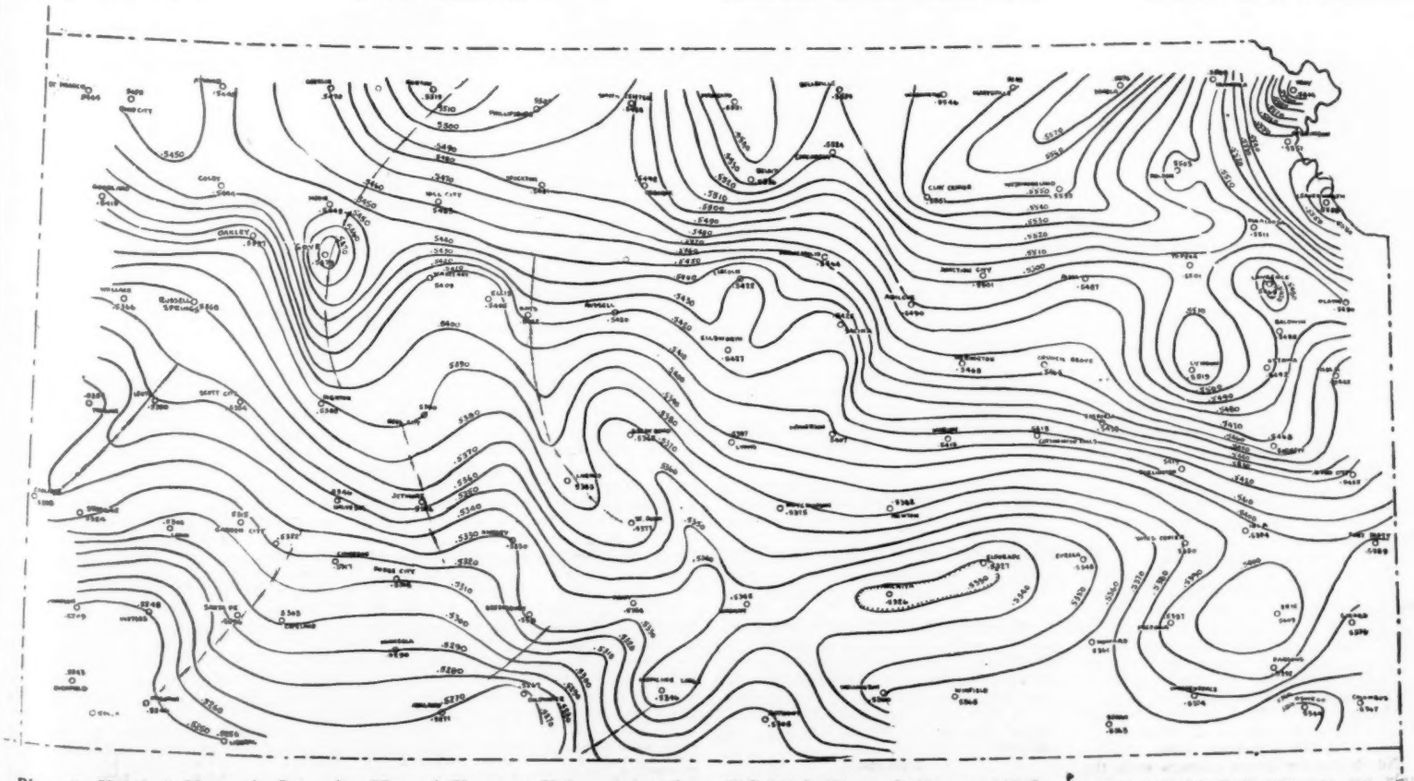


Plate 1—Vertical Magnetic Intensity Map of Kansas. Values taken from U.S.C.&G. Magnetic Survey. No regional corrections applied. Contour interval 100 gamma. Drawn by L. Spraragen.

Soviet Balks at World Co-operation

Russia Rejects Conditions Offered by Anglo-American Conference. May Lead to British Tariff Against Russian Oil Dumping

By Special Correspondent

NEW YORK, Oct. 8.—Oil company executives who have been congratulating themselves on the apparent imminence of world harmony in the petroleum industry were considerably disturbed this week by reports from London announcing the breakdown of a parley participated in by representatives of American and British oil companies, and the Russian Oil Products Co., a Soviet concern marketing Russian oil products in Europe. The Russian organization for some time has been conducting what other oil companies term a ruinous price war in Great Britain. Representatives of the British and American companies conferred with officials of the Soviet organization in an effort to reach an accord, offering the Russian syndicate a larger share of the British market, with a general increase in prices. Up to a few days ago, it had been assumed that the situation was on the verge of amicable adjustment, but negotiations were broken off abruptly, reputedly through political interference in Russia.

The conference was participated in by the Russian representatives, and officials of the Royal Dutch-Shell group, Anglo-American Oil Co. and the Anglo-Persian Oil Co. Standard Oil Co. of New York and Vacuum Oil Co. have hitherto figured in the marketing of Russian oil products abroad, but current advices from London do not mention the participation of these two companies in the meetings.

Russian Competition

Russian competition has become an important factor in British oil markets during the past few years. The British companies have been forced to cut prices to meet the competition of the Russians, and it is reported that because of this situation Anglo-Persian has been forced to omit its dividend and Anglo-American Oil to reduce its dividend payment, while Shell group is reported to have ben paying dividends from reserves and earnings on its operations outside of England.

The Russian Oil Products Co., it is reported, has but 5 per cent of the motor spirit business in Great Britain, but its prices have averaged about $10 per ton under those of competing companies. Other oil companies operating in Great Britain have charged that the Soviet marketing company has been losing from $1,000,000 to $1,500,000 annually to continue the price war in Great Britain, and that as a result of this competition prices in Great Britain are below the world parity. Annual sales of Russian gasoline in Great Britain are reported at 30,000 tons, out of total exports of 20,000,000 tons of Russian oil products to all countries. To affect a settlement of the price war, the British and American companies offered Russian Oil Products Co. a business of 175,000 tons annually on gasoline in Great Britain, and in addition offered to purchase gasoline and other petroleum products up to approximately 1,000,000 tons per annum from the Russian syndicate. The total purchases, it was estimated, would net the Soviet Naphtha Syndicate close to $8,000,000 per year. The one condition made by the British and American companies was the stumbling block, however.

Condition of Settlement

The condition of the settlement proposed by the Russian and American companies was that the Soviet syndicate agree to set aside 5 per cent of all receipts on its oil sales to compensate British, American and other oil companies for their properties seized by the Soviet government when it nationalized the Russian oil industry. The Medway Oil & Storage Co., a large distributor of Russian oil products in Great Britain, is voluntarily setting aside 5 per cent of its business as the nucleus for such a fund, and it had been thought that the Soviet Naphtha Syndicate would be willing to take similar action to break down the opposition to its operations in principal world markets.

Principal bars to the acceptance by the Russians of the proposals of the British and American companies, it is understood, are the internal opposition in Russia to any negotiations with the "capitalist enemies" of the Soviet government, and the utterances of Sir Henri Deterding, managing director of the Royal Dutch-Shell group in the campaign which he is waging against Russian oil products in England.

The anti-Russian oil campaign being conducted by Sir Henri has as its slogan "Stolen Oil" and is being energetically pushed. In addition, it is understood that he has been a potent factor in having Soviet officials deported from Great Britain during the past few years.

The breakdown of the negotiations, it is expected, will result in a determined effort on the part of principal British and American factors in the British market toward the invoking of government assistance to curb the price-cutting activities of the Soviet oil syndicate. This campaign, it is believed, will take the direction of an attempt to secure the imposition of a protective tariff against Russian oil, or the classifying of Russian oil imports as "dumping." The dumping charge, it is thought, can be sustained by evidence tending to show that as a result of the price cutting on Russian oil products, prices on gasoline and other products in Great Britain are under the world parity.

American oil companies have been particularly interested in the efforts which have been made to bring Russia into the community of world oil interests because of the necessity for co-operation of Russia in making the crude conservation program fully effective. With conditions prevailing as at present, and the Russian oil industry regarded as an "outlaw" by leading American and British oil interests, there is little likelihood of any inclination on the part of the Russian syndicate to voluntarily participate in a program of co-operation with companies which are fighting it tooth and nail. While Russian oil production is not the factor with the United States industry that South America is becoming, it is of course recognized that Russia is an important factor in the world oil position, and that no curtailment program designed to effect world stability can become fully effective with Russia outside of the fold.

Considerable uncertainty exists among oil men regarding the extent of the development program in the Russian fields. The Soviet Naphtha Syndicate has embarked upon an extensive expansion program in its refining facilities during the past few years, and has likewise been enlarging its pipe line facilities to handle increasing production of crude. Japanese capital, it is understood, has been participating in this expansion program. Reports of unfavorable progress in the Russian refinery construction program have been heard, but nothing definite nor comprehensive in this connection has as yet been forthcoming. A recent statement by the Amtorg Trading Co., American agents for the Soviet government, indicated that considerable progress was being made in enlarging refinery capacity in Russia, and recent developments in the marketing situation in Europe, particularly with respect to the increasing Russian competition, would seem to bear out this statement.

Shell-Burmah Alliance

According to London cables, the Burmah Oil Co. is marketing £4,000,000 of 5½ per cent debentures at par to holders of its preference and common shares, the new capital to be used in acquiring a block of 833,333 shares of Shell Transport & Trading Co. stock at 5£ 1s 16d. The Shell shares, which are reported to be treasury stock, carry rights to take up one new share for each five held, bringing Burmah Oil Co.'s total holdings of Shell stock up to 1,000,000 shares.

The debentures are redeemable at par in 1953 or 1934, at the option of the company, and carry rights up to November, 1933, to exchange for common shares of Anglo-Persian Oil Co. stock held by Burmah on the basis of one share for each £6 debentures. To provide for such exchange, Burmah Oil Co. is organizing a voting trust, entitled Boc-Anglo Persian Share Trust, Ltd., to acquire 700,000 shares of Burmah's holdings of 3,561,000 shares of Anglo-Persian £1 par common.

Opinion in London financial circles is that the deal between Burmah and Shell indicates a closer grouping of leading oil companies.

Immediate results of the Burmah's purchase into the Shell company, would be an alliance between the foreign oil groups, which control oil production in the whole eastern hemisphere, with the exception of Russia.

Lose Fight for Uniform Gas Tax

North American Gasoline Tax Conference Refused to Include 2-Cent Tax Rate in Model Law. Uniformity in Specifications

MEMPHIS, Tenn., Oct. 8.—Representatives of oil associations and individual companies attending the North American Gasoline Tax Conference lost their fight to have the state delegates go on record as favoring a uniform gasoline tax of 2 cents per gallon in all states. The 2-cent tax was suggested as one of the provisions of a model Gasoline Tax Law which was proposed at the conference.

After a lengthy discussion the gasoline tax law was approved at the conference but no recommendation was made as to the amount of the tax. The oil men were successful in some of their contentions. The proposed law incorporates a clause which would provide that dealers and oil companies subtracting from the total tax, the cost of collection, the exact amount to be decided upon by legislatures in each state.

Representatives of oil companies during the two-day discussion of the measure pointed to the rapid increase in gasoline tax collections which this year will exceed $300,000,000. The tax is as high as 5 cents in some states, working a hardship both on the oil companies and the consumers.

The proposed model law provides for uniformity in inspection methods and specifications of products. In regard to specifications of petroleum products it is suggested that the government requirements be adopted when possible. Copies of the proposed law can be obtained from William A. McAtee, Jefferson City, Mo.

The third annual meeting of the conference was held at the Peabody Hotel, Memphis, Tenn. About 125 were in attendance, mostly officials of the various states who handled the collection of the gasoline taxes and the inspection of gasoline or other petroleum products.

Apportioning Revenue

Ike W. Crabtree, general counsel for the Producers and Refiners Corp. of Tennessee, spoke on the subject "Apportionment of Gasoline Tax Revenue." In his discussion he treated the history of this excise tax since its first introduction in Oregon and of its necessity for the construction and maintenance of highways. He pointed out that although the gas tax is considered a popular tax, nevertheless in that fact lies its danger as there is a possibility of overdoing it. He stated that excise taxes now constitute 20 per cent of the cost of gasoline to the consumer. He suggested that the tax should be apportioned according to the necessity of the state and uniformity in this respect would be impractical. He also advocated that this tax be devoted to development purposes, the construction of highways and their maintenance with a fractional per cent to be used to properly advertise the state's resources. In his address he favored a division of the tax with counties but opposed any portion of it going to municipalities. He favored collecting the tax on purchases rather than on sales and the payment of the tax into the state treasury each month. Much interest was created by Mr. Crabtree's talk and considerable time was required for discussion.

A paper entitled "Recent Tax Decisions" by H. D. Minor, general counsel Standard Oil Co. of Louisiana, concluded the morning session. Mr. Minor discussed the legal phases of two or three decisions in Tennessee and the famous decision in the Mississippi versus Panhandle Oil Co. case wherein it was held that the state could not collect a tax on gasoline sold to the Federal Government where it had a law which exempted the tax from gasoline sold to the State Government.

Archie Bobbitt, gasoline tax collector, Indiana, gave a paper in which he discussed in detail the Supreme Court's decision in the case of the Panhandle Oil Co. versus State of Mississippi, in which the court held in a divided opinion that gasoline sold to the Federal Government is not subject to tax. This particular case was one of the leading topics of discussion among the delegates. Immediately following Mr. Bobbitt's paper, W. S. Booten, of Tennessee, asked the conference the attitude of the various states as to requesting the Supreme Court for a rehearing of the case. The delegates from South Carolina, Tennessee, Virginia, North Carolina, Colorado, Oklahoma and Utah said that their states would join in such a request if made. During the discussion it developed that variations in the laws of different states are such that the Mississippi decision leaves some of them in doubt as to their status. This particular subject was of such importance that during the conference a committee was appointed to confer with Comptroller General McCarl regarding his interpretation of this case and to make their report

(Continued on Page 119)

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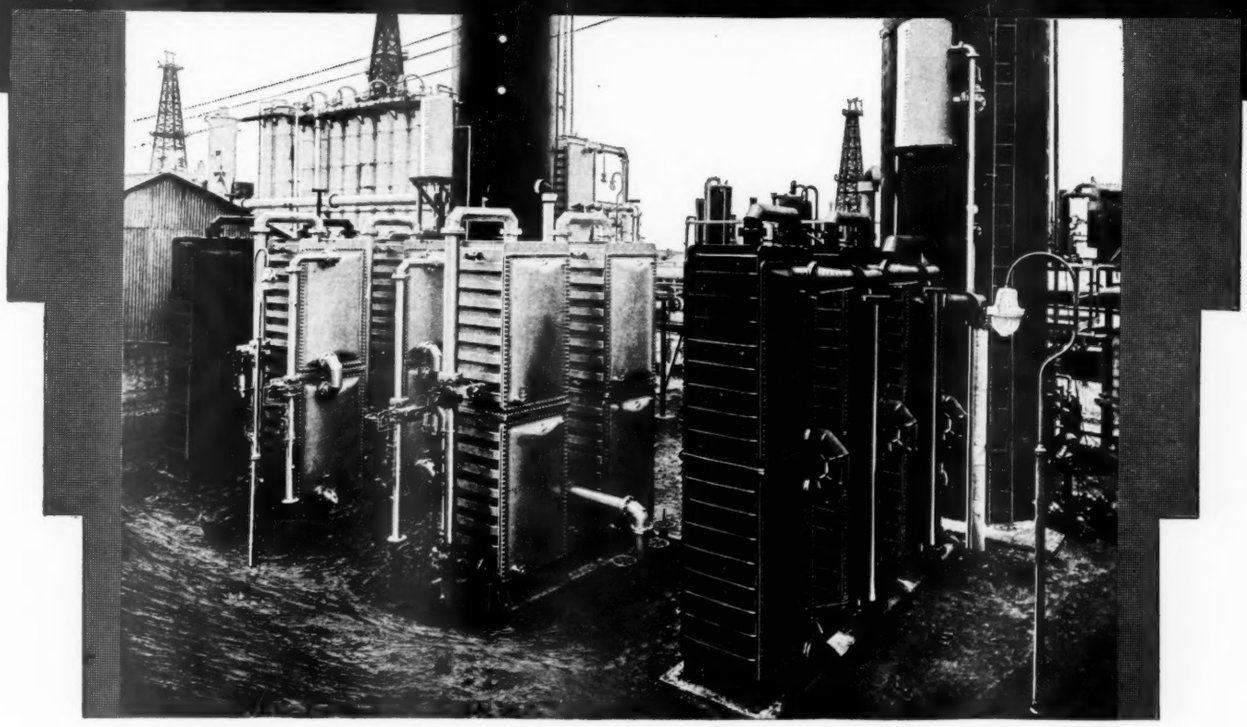

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SELLING OUR SURPLUS

How important the export market is to the American oil industry is shown very plainly in the Government's report of operations for the first eight months of this year.

Had it not been for the notable increase in the exportations of gasoline, kerosene, lubricants and wax the favorable conditions which existed in the domestic market this year would not have been maintained.

These exports, while small in comparison to the total home and foreign consumption, made all the difference between fair prices and low prices by removing enough of the surplus production to maintain a steady market.

The steel industry long ago recognized this function of exports as a stabilizing influence in the domestic market. It went so far as to justify selling the surplus production abroad at prices below the market at home, arguing that it was thus possible to maintain an American standard of prices and wages in this country whereas if the surplus production had been dumped on the domestic market prices would have been forced down and wages with them.

Productive capacity had outstripped domestic consumption for the time being and if the mills were to be kept running and American labor given steady employment the surplus production must be sold abroad in competition with lower costs.

Some domestic consumers complained that the foreigners were able to buy cheaper than they were, implying that the domestic consumer was being robbed, when as a matter of fact the American price was in accordance with the American standard of living and the lower prices obtained abroad for the small surplus production could not have been applied to the main domestic production without slashing wage schedules and impairing the general prosperity.

The American steel industry, grown strong and prosperous, today competes with all the world and has been a main factor in building up the American prosperity which we all share.

It recognized early the value of foreign trade in taking care of surplus production that would have beaten down prices below living levels at home. If the oil industry will study the export figures on petroleum products for the past eight months it will reach the same conclusion.

Out of a total demand for 249,784,000 barrels of gasoline 36,431,000 barrels were exported, or 14.5 per cent. This was an increase of 21.4 per cent in exports of motor fuel in the eight months, while there was but 9.1 per cent increase in domestic consumption.

The rate of increase in exports of gasoline was more than double the rate of increase in domestic demand.

The significant thing is that had there been no such demand for exports and even a fraction of that additional 36,431,000 barrels of gasoline had been thrown on the domestic market prices could not have been sustained at the favorable quotations ruling through the past season.

Every refiner knows the part played by export buying in sustaining the favorable market during the present year.

Kerosene is another product which tells the same story. Of a total demand for 38,977,000 barrels in the eight months 14,889,000 barrels were exported or 38 per cent. While the domestic demand actually showed a slight decrease there was an increase of 10.3 per cent in exports and an increase in total demand of 6.1 per cent. The domestic demand for kerosene has shown a decline in every year since 1925 and it continues. The big increase in exports of kerosene has saved the market.

In lubricants, out of a total demand for 23,291,000 barrels, 7,703,000 barrels were exported or 33 per cent. The domestic demand in the eight months increased 7.4 per cent while the export demand increased 18.6 per cent. Another case where the increase in exports kept the market steady.

Wax makes a similar showing. Out of a total demand for 501,291,000 pounds 287,173,000 pounds were exported or 57 per cent. The domestic demand increased 16 per cent in the eight months but the export demand increased 32 per cent.

Due to this large increase in total demand stocks of wax are 56.2 per cent less this year. The great increase in exports is clearly responsible for the reduction in stocks and the return of profitable prices in all areas. In the case of gas and fuel oils exact data are not available covering both domestic and export demand but our exports are absorbing between 10 and 12 per cent of our output.

Considering how much the increases in exports have meant in stabilizing prices at home and maintaining a favorable market when support was most needed by furnishing an outlet for surplus production that might have been dumped on the domestic market the importance of our foreign trade cannot be ignored.

There are two developments abroad which are affecting our export markets. One is the policy of the Soviet industry in underselling the market to get the cash the Government needs, a political parallel for the "distress gasoline" that has appeared in American markets when sellers had to have the money at any cost.

Another is the expansion of refineries abroad. On this point, however, it may be said that American companies which have built large refineries on the coasts, manufacturing every petroleum product, are in position to ship these varied products to any point while refineries not so favorably located and built for the distribution of but one product may be long distances from markets for their other output.

American organization and efficiency, which have given us the leadership in steel exports, can be counted on to maintain our position in petroleum exports if conducted with the same thoroughness and co-operation.

One of the difficulties American exporters meet is the tendency of foreign buyers to pool their information and buying, possibly an effect of the object lesson given during the war when the Allies formed a buying pool for their purchases in America. How easily such a combination can take advantage of overkeen competition among American exporters may be imagined. Here, as in the producing and refining divisions, co-operation might prove profitable.

If foreign buyers find it useful to work together for a common purpose, as many exporters have found to their cost, it might suggest a counter movement as a natural offset.

The competition in foreign markets is bound to become sharper, and, since our exports of petroleum products are shown to be so necessary for the stabilization of our domestic market, every possible means should be employed to hold and extend our shipments abroad.

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J. BURR GIBBONS WILL BECOME VICE PRESIDENT OIL WELL IMPROVEMENTS

J. Burr Gibbons, general manager of the International Petroleum Exposition, has been made vice president and general sales manager of the Oil Well Improvements Co., of Tulsa, and will assume his new duties November 1, after the close of the exposition which will be held in Tulsa from October 20 to October 29, inclusive. Alf G. Heggem is president of the Oil Well Improvements Co. He and Mr. Gibbons have been associated in industrial and civic affairs for the past 15 years, each being a former president of the Tulsa Chamber of Commerce and having been associated closely in the development of the Petroleum Exposition during the past two years.

J. Burr Gibbons

Alf G. Heggem

The Oil Well Improvements Co. specializes in the manufacture of equipment for oil field use, among its products being control heads, oil savers, Berry pattern heads and special fittings. The company also has a number of new products in the process of patenting at Washington and will have them on the market in the near future.

Mr. Gibbons has been a resident of Tulsa for 21 years and has wide experience in manufacturing, industrial development and merchandising. In addition to having served as president of the Chamber of Commerce he has been active in all industrial and civic movements in connection with the extensive growth of Tulsa. He was selected to manage the International Petroleum Exposition in 1927 and drafted again this year for the same position. The wonderful success already achieved by the Exposition and the prospects that the show this year will far eclipse anything held previously are due largely to the untiring efforts of Mr. Gibbons and to his ability to grasp readily the desires of the industry in regard to the big oil show and to obtain the active co-operation of all oil company executives, equipment manufacturers and the different associations connected with the petroleum industry.

Harry W. Lackey, formerly with the bond department of the First National Bank of Tulsa, has been selected as secretary and treasurer of the Oil Well Improvements Co. Other officials include Charles O. Heggem, superintendent of production; S. J. James, auditor; Robert M. Lee, field representative; and Edward Ligon, director. The company is one of the pioneers in the manufacture of oil field equipment, having been organized in 1912. It recently completed the erection of a new plant and administration building in Tulsa.

HIGH SPOTS IN FIELD NEWS

OKLAHOMA

Recommendation adopted by Seminole operators that the membership of the Seminole Advisory Committee be increased to seven with representation for operators who have no pipe line or refinery affiliations and that the state's allowable production be increased from 700,000 to 750,000 bbls. daily.

St. Louis area, obtaining water through rainfall, resumed continuous operation of air lift plants and made 125.860 bbls. Tuesday. Seminole production Tuesday was 325,891 bbls.

EAST TEXAS

Humble Co.'s No. 1 Roberts, Boggy Creek, started showing high gravity oil and was flowing at rate of 103 bbls. daily.

GULF COAST

Best well in Barbers Hill in 25 years brought in making 4,000 bbls.

KANSAS

Marion County wildcat had show of oil and 8,000,000 feet of gas.

MUSKEGON

Muskegon, Mich., Field completed its best well making 1,300 bbls. initial from the Traverse formation.

NEW MEXICO

Gypsy Oil Co.'s No. 1 Ramsey, Lea County, making 10,000,000 feet of gas when boiler was moved back.

NORTH LOUISIANA-ARKANSAS

Committee named to study precautions against cratering. Gas field in Richland Parish extended by wildcat.

SOUTHWEST TEXAS

Gas area of Refugio Field widened half mile to north. New Serpentine Pool may be opened in Caldwell County.

Sun Co. well in Joe Bruner Field that made only a small well in the Austin was carried to the Edwards and made a showing of oil.

WEST TEXAS

Howard County well made 4,220 bbls. on latest gauge. Believed to have opened sixth pay zone 3 miles west of Roberts Pool.

New proration gauges were announced for Roberts Pool and Yates Pool.

Extension wells in Hendricks district were a feature of Winkler County.

NORTH TEXAS AND PANHANDLE

Opening of new pools in Haskell County and Runnels County and extension of two pools in Wilbarger County, with increased production in Panhandle and Wichita Falls districts.

CALIFORNIA

Committee named to work out Santa Fe Springs conservation program.

Milham well at Kettleman Hills blew out of control making 20,000,000 feet of gas and about 200 bbls. of oil.

GASSER MAKING 20,000,000 FEET RUNNING WILD IN KETTLEMAN HILLS

By L. P. Stockman

LOS ANGELES, Calif., Oct. 9.—California has the unique distinction at the present time of having two gassers several hundred miles apart running wild simultaneously and George Getty's No. 17 Nordstrum at Santa Fe Springs which has been burning continuously for more than three weeks will now have to share the spotlight with the Milham Exploration Co.'s Kettleman Hills wildcat, No. 1 Elliott, which blew in a few days ago out of control doing approximately 20,000,000 feet of wet gas and about 200 bbls. of 45 gravity oil daily.

The former well is causing operators considerable anxiety and while it will be another several days before anything definite can be done engineers in charge of operations are hopeful that this gasser will be brought under control soon. The Milham's big gasser at Kettleman Hills has not yet taken fire and rush orders have been issued to push control work ahead as quickly as possible in order to minimize the fire hazard.

This well, located on the north dome of the Kettleman Hills and about 20 miles southeast of Coalinga, in favorably regarded wildcat territory, has been drilling since early in 1926. It reached the critical stage several months ago but just when everything was looking good a twistoff left several stands of drill pipe in the hole and the anticipated production test was indefinitely postponed. Being unable to recover the fish the crew began sidetracking and this work had progressed down to 7,108 feet when the well blew out with a roar that could be heard 15 miles away. It is shooting a column of gas and oil over 300 feet into the air.

Gas Line Project

This well is especially significant in view of the fact that the Milham interests through the Mexican Seaboard Oil Co. have just consummated a deal with the Pacific Gas & Electric Co. for the construction of a 240-mile pipe line from the Buttonwillow gas field to Oakland,

(Continued on Page 166)

Late News from the Field

SOUTHWEST TEXAS

SAN ANTONIO, Tex., Oct. 9.—Sun Oil Co.'s No. 1 Malone in the Joe Bruner Field that made only a small well in the Austin formation where other wells of the field are producing was carried down to the Edwards lime and at 2,717 feet late last week was 4 feet into the Edwards and with a showing of oil. It is on a caprock and attempting to take a core but having difficulty in doing so The fate of the well largely rests on what is under the cap rock, but there was a general impression in the field late in the week that it had a good chance to make an oil well and open a new field in the Edwards lime from which the Luling Field, 5 miles away is producing. Hard streaks are common in the Edwards lime and it is under some of these in the upper part of the formation that production is obtained in the Luling Field.

Major oil companies have spent over $500,000 for leases in the Joe Bruner Field on the chance of getting production in the Edwards lime. The Joe Bruner discovery well is 1 mile north of the town of Luling and the field known as the Luling Field is 5 miles northwest of the town. Geology indicates that there is no connection between the two fields. The play of producers on the chance of another Edwards lime field in this area has been the most active that Southwest Texas has seen in years and as high as $300 an acre has been paid for leases. The Sun well is the first directly in the line of the area the companies are play-

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Natural Gas Men to Hold Convention in Kansas City in May

ATLANTIC CITY, N. J., Oct. 9.—At a meeting here today of the Natural Gas Department of the American Gas Association it was decided to hold the next annual meeting of the department early next May in Kansas City, Mo., and to hold the annual election of officers for the department at the same time and place as the election of the American Gas Association officers. Present officers of the Natural Gas Department will serve until September 30, 1929. Decision was also made to move the office of the secretary of the Natural Gas Department to Pittsburgh, Pa.

Two New Pools in Wichita Falls Area

Greyback and Consolidated Pools Are Also Extended. Substantial Gains in Production in the Panhandle District

By J. H. Dameron
Fort Worth Bureau, The Oil and Gas Journal

FORT WORTH, Tex., Oct. 8.—Opening of two new pools in the Wichita Falls district, one in Haskell County, heretofore a nonproductive county, extension of two pools in the Wilbarger County fields, and substantial gains in production both in the Panhandle and Wichita Falls districts, summarize the signal developments in North Texas during the week.

Down in the southeastern corner of Haskell County and near the north line of Shackelford County, Moody Oil Corp.'s No. 1 Reynolds Cattle Co., J. Fenner Survey, is swabbing 146 bbls. daily from sand at 1,728-30 feet. The well is making about half a bailer of water per hour which is believed by the owners to be coming from above the oil pay.

This well has a twin in the development of Runnels County. L. D. Ladd and associates of Fort Worth abandoned their test in Runnels County and a few months later deepened the hole 25 feet and opened Runnels County to production. The Moody Corp. well was abandoned temporarily several months ago at 1,703 feet. A few weeks ago it was deepened 25 feet and has opened Haskell County to production.

No. 1 Reynolds has 100 feet of open hole and when it came in it made around 65 bbls. naturally the first 24 hours. Late last week the hole had considerable cavings in it. It was cleaned to the bottom and swabbed to the bottom, making 38 bbls. The next hour it made 9 bbls. on the swab.

Moody Corp. plans to clean the hole to the bottom and run 5⅞-inch casing with a packer to shut off the water. In the event a water shutoff is effected it is probable the wildcat will be deepened. To many geologists the producing sand in this well appears to be about 70 feet below the King horizon. If this assumption is correct the well is producing from the deepest producing horizon found in the Cisco series.

New Pool in Wichita

Bridwell Oil Co. and Heydrick apparently have opened a new 1,900-foot sand pool in Wichita County in their No. 1 Burnett, Section 3, H.&T.B. Survey, south of Electra. The well is in the center of a 160-acre tract, the northwest quarter of the section. It is between the Planet-Gladiolus and old Culberson Pools.

The well topped sand at 1,915 feet and penetrated it 6 feet. The hole started filling with oil and the well is estimated to be a 50 to 60-bbl. pumper and is scheduled for completion early this week.

In addition to adding more flush production to their respective pools the Consolidated and Greyback Pools were both extended and the possibility of the 2,400-foot sand producing in the former pool looks better as a result of a dry hole in the regular pay of the Consolidated Pool being drilled deeper.

Hamilton and Martin's No. 1-C Waggoner, Section 5, Block 5, H.&T.C. Survey, in the Consolidated Pool, missed the regular pay around 1,830 to 1,900 feet and was drilled down. At 2,400-04 feet the well got a showing and casing was set for a test. Late in the week the hole was being cleaned, showing some oil and no water. In the event the well fails at its present depth as a producer and no water shows the owners plan to penetrate the sand farther.

There are several holes in the Consolidated Pool that missed the regular pay sand. If the Hamilton and Martin well is completed as a commercial producer in the 2,400-foot sand it is likely the several dry holes will be carried on down to the 2,400-foot pay.

Consolidated Oil Co., discoverer of the pool bearing its name, extended the pool a slight distance to the northeast with No. 3-C Waggoner. The well had the sand at 1,860-91 feet and was completed as a 255-bbl. producer.

Greyback Extended

Fain and McGaha Corp.'s No. 1-U Waggoner, Section 23, Block 4, extended production in the Greyback Pool three-quarters of a mile to the east. The well had sand at 2,390-94 feet and made 163 bbls. the first 24 hours but dropped down to 70 bbls. during the second 24-hour period.

Several good wells were completed in both of these pools and early in the week Fain and McGaha were reported to be completing a well on their S lease that was rated a 1,500-bbl. producer. Thirteen new producers were completed in southeastern Wilbarger County with a combined production of 2,465 bbls., or a well average of 190 bbls. Two dry holes were also finished.

Setbacks in various forms have beset developments in the southeastern Wilbarger fields since its flush was indicated several months ago. Pipe line room could not meet the maximum output of the pools and that resulted in a restriction of drilling. The water situation gave operators a slight scare but that passed without any serious alarm being expressed.

This time development in that section of the county is threatened with a shortage of water. Unusual drafts on the reserve supply on the Waggoner ranch is rapidly diminishing the supply which has suffered from the lack of rainfall. Unless the dry spell is broken it is probable that drilling in that section of the district will be shut down until the water supply is replenished.

Wildcatting in Panhandle

Reports from the Panhandle gave that area another bright week with good flush producers being reported and a marked increase in wildcat activity. Mordyan Oil & Gas Co.'s No. 1 M. B. Davis, was the best completion of the week when it made 2,435 bbls. initially from granite wash pay at 2,835-38 feet.

The Texas Company's No. 2 Davis, SW cor. NE, Section Block 1, A.C. H.&B. Survey, started off making 125 bbls. per hour from granite wash pay at 2,765-75 feet. Both wells are in the LeFors area of Gray County.

Activity and interest in Moore County is steady and three new locations made last week bring the total operations of the county to 10. Skelly Oil Co.'s well in the Proctor Survey is holding up remarkably. The Texas Company started buying in that section of Moore County and Phillips Petroleum Co. is adding to its holdings.

Cochran and Yoakum Counties, in the south plains area, are both getting a rather lively wildcat play. Gulf Production Co. is reported buying in that area and two other blocks, 8,000 and 9,000 acres respectively are reported to be changing hands. The Texas Company, Roxana Petroleum Corp., and Vacuum Oil Co. have geophysical crews working in Cochran County.

North Texas registered a net gain of 2,241 bbls. in daily average production last week. The Ranger district was down 566 bbls. in daily average but this was overcome by a 2,187-bbl. gain in Wichita Falls district and a 620-bbl. gain in Panhandle. Most of Wichita Falls district gain was from southeastern Wilbarger County while Gray and Moore Counties gave Panhandle a gain after Hutchinson County slipped.

NORTH TEXAS
Estimated Daily Average Production for the Week Ending October 6

	Bbls.
Panhandle District—	
Carson County	6,385
Gray County	24,700
Hutchinson County	31,425
Moore County	1,890
Potter County	20
Wheeler County	890
Total this week	65,310
Total last week	64,690
Increase	620
Wichita Falls District—	
Archer County	19,446
Baylor County	90
Clay County	479
Cooke County	2,400
Jack County	1,455
Montague County	8,211
Throckmorton County	795
Wilbarger County	34,650
Young County	8,486
Wichita County	26,248
Total this week	102,260
Total last week	100,073
Increase	2,187
Ranger District—	
Brown County	10,960
Callahan County	3,360
Coleman County	3,510
Comanche County	1,360
Palo Pinto County	420
Ranger	5,620
Shackelford County	10,560
Stephens County	7,478
Total this week	43,268
Total last week	43,834
Decrease	566
Grand total this week	210,838
Grand total last week	208,597
Increase	2,241

TEXAS PANHANDLE WILDCATS

Week Ended October 6

CARSON COUNTY

Company, Well, Farm, Name, Section and Block—	Remarks—
Beaudain et als' No. 1 Barnard, 330 ft. from N and E of E 80 acres, SE. Sec. 24, Blk. 4, I.&G.N. Sur.	Rig.
Denson et als' No. 1 W. E. Cobb, 930 ft. from N line, 280 ft. from E line, W half NW, Sec. 184, Blk. 2, I.&G.N. Sur.	S.D. 725 ft.
Empire G. & F. Co.'s No. 1 D. Pope, 990 ft. from S and E lines, Sec. 242, Blk. 2, H.&G.N. Sur.	Drlg. 2,675 ft.
Empire G. & F. Co.'s No. 1 J. J. Crutchfield, 1,320 ft from S and W lines, Sec. 28, Blk. 4, I.&G.N. Sur.	Drlg. 1,650 ft.
Morris et als' No. 1 Barnard, NW cor. SW SE, Sec. 44.	S.D. 400 ft.
Navajo Oil Co.'s No. 2 Poling, 660 ft. from W and 330 ft. from N lines, N 30 acres SW, Sec. 22, Blk. X-2, T.T.R.R. Sur.	S.D. 800 ft.
Spartan Oil Co.'s No. 1 S. Bednorz, NW cor. E ½ NW, Sec. 202, Blk. 3, I.&G.N. Sur.	Rig.
Stubblefield et als' No. 1 Cooper, 340 ft. N and 330 ft. W line SE, Sec. 5, Blk. 9	Spud.
Travis et als' No. 1 D. A. Harrell, C NE NE, Sec. 162, Blk. 7, I.&G.N. Sur.	Drlg. 1,500 ft.

CASTRO COUNTY

Colorado O. & R. Co.'s No. 1 M. Slemmons, SW cor. Sec. 73, Blk. M-17, B.S.&F. Sur.	Rig blown down.
Mystery Oil Co.'s No. 1 J. I. Crum, SE cor. NE, Sec. 333, Blk. M-6, S.K.&K. Sur.	S.D. 510 ft. for csg.

CHILDRESS COUNTY

C. L. Sloane et al's No. 1 B. P. Smith, Sur. 49, F. P. Knott lands	S.D. 4,005 ft.
The Texas Co.'s No. 1 Smith, 100 ft. each way from NW cor. Sec. 174, Blk. H, W.&N.W. Sur.	S.D. 3,500 ft; wtr. encountered.

COCHRAN COUNTY

Clark & Melat's No. 1 C. C. Slaughter, 1,650 ft. E and 660 ft. S of NW tract, League 118, Knox County School land	Rotary derrick.
Mariand Prod. Co.'s No. 1 C. C. Slaughter, 330 ft. from S and W lines, Carson County School land, Tract 130.	Drlg. 1,550 ft.

COTTLE COUNTY

Explin. Co.'s No. 1 Richards	Spudded and S.D.
Explin. Co.'s No. 4 Matador Land & Cattle Co., C, Sec. 46, J. H. Stephens Sur.	Spud and S.D.
Skelly Oil Co's No. 1 J. H. Cannon	S.D. 3,480 ft.
Sun Oil Co.'s No. 1 T. B. Yarborough, 485 ft. S and 2,460 ft. E of NW cor. Sec. 551, Blk. H, W.&N.W. Sur.	Drlg. 2,330 ft.

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PANHANDLE COMPLETIONS
Week Ended October 6

Gray County

Mordyan Oil & Gas Co.'s No. 1 M. B. Davis had an initial production of 2,435 bbls. at 2,835-38 feet. Parker and others' No. 2 Parker, located 2,310 feet from the north line and 990 feet from the east line of south 360 acres, Section 9, N. Lynch Survey, was dry and abandoned at 2,880 feet. Roxana Petroleum Corp.'s No. 1 Shaw, 257 feet from the west line and 300 feet from the south line, SW cor. Section 5, Block 1, A.C.B.&B. Survey, was shot with 20 quarts at 2,779-93 feet and with 40 quarts at 2,780-90 feet and had an initial production of 255 bbls. Delaney and others' No. 5 W. Jackson, SE cor. W half SW cor. Section 88, Block B-2, H.&G.N. Survey, was dry and abandoned at 3,335 feet. The Texas Company's No. 1 M. Langham, 330 feet from the north line and 257 feet from the east lines of E half SE Section 1, Block 2, H.&G.N. Survey, flowed 25 bbls. naturally, was shot with 90 quarts at 2,650-2,710 feet and made 57 bbls. the first 24 hours and was shot again with 340 quarts at 2,650-2,710 feet and made 150 bbls. and was drilled to a total depth of 2,810 feet.

Hutchinson County

Huffman Oil Co.'s No. 1 J. M. Sanford was shot with 60 quarts at 2,935-61 feet and was shot again with 10 quarts at 2,910-16 feet and had an initial production of 175 bbls. Phillips Petroleum Co.'s No. 17 J. J. Perkins was shot with 20 quarts at 2,916-42 feet and made 155 bbls.

Wheeler County

Edwards and others' No. 1 T. C. Jones, 1,323 feet from the south line and 651 feet from the east line of NE cor. Section 1, Block 24, H.&G.N.R.R. Survey, made 47,000,000 feet of gas at 1,875-1,905 feet, 380 rock pressure. Hartel and others' No. 1 Turnbow, C SE NW Section 53, Block 17, H.&G.N.R.R. Survey, made 13,000,000 feet of gas at 1,806-1,980 feet.

WICHITA COMPLETIONS
Week Ended October 6

Archer County

Harrison & Tweet's No 5 Jackson was dry and abandoned at 1,807 feet. Deep Rock Oil Co.'s No. 1 Worsham was dry and abandoned at 2,300 feet.

Cooke County

Kewanee Oil & Gas Co.'s No. 22 Dennis made 20 bbls. at 1,281-86 feet.

Jack County

C. W. Bland and others' No. 1 Keith was abandoned at 1,640 feet. Panhandle Refining Co.'s No. 1 Keith was dry and abandoned at 3,172 feet. Earle Trustee's No. 1 Kinder was dry and abandoned at 3,250 feet. Lydocker and others' No. 1 Bryson was dry and abandoned at 4,065 feet. A. Lydecker's No. 1 Moore was dry and abandoned at 2,086 feet.

Young County

Creath & Kell's No. 1 McBrayer was dry and abandoned at 755 feet. Four Oil Co.'s No. 1 Brayan made 10 bbls. oil and 8 bbls. water at 944-47 feet. Kennedy and others' No. 2 Johnson made 25 bbls.

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Sixth Pay Zone in Southern Howard

Well 3 Miles West of Roberts Pool Makes 4,220 Bbls.
New Proration Gauges in Roberts and Yates Pools

By James H. Dameron
Fort Worth Bureau, The Oil and Gas Journal

FORT WORTH, Tex., Oct. 8.—Most of West Texas spot development during the past week was in the extension wells of the Hendricks Pool and the sensational performance of a Roberts Pool well in southern Howard County.

The latter well drew more attention than probably any other well in West Texas last week. It was Henshaw Oil Corp.'s No. 1 Settles-A, Section 6, Block 32, Township 2s, Howard County, which made 4.220 bbls. on its last available 24-hour gauge.

The well is more than 3 miles west of the Roberts Pool and is believed to have opened the sixth pay zone in southern Howard County. It is 1,650 feet from the north line and 2,310 feet from the east line of Section 6.

Some time ago this well was temporarily completed flowing 65 bbls. per hour after having topped the pay at 2,208 feet. Late last week the well was deepened to 2,239 feet, making it 31 feet in the pay. Each foot of drilling increased production.

The oil from this well is better than the average Howard County crude. It tests 34 gravity and is reported to have less sulphur than the average crude produced in the Roberts Pool. Because of the lack of storage, production has been pinched to 30 bbls. per hour. Surface elevation of the well is 2,708 feet and the lime was topped at 2,001 feet.

Soon after the well came in making 65 bbls. per hour, Henshaw corporation purchased the nineteen-thirty-seconds interest in the 138-acre tract in Section 6 and 80 acres in Section 135 and 158, Block 29, from McGinley & Sigler for a reported price of $500,000. In this immediate territory several deals of considerable magnitude have been closed since the wildcat extensioner made its sensational performance. Louisiana Oil & Refining Corp., Shreveport, La., was the most recent buyer in this area and has offset acreage to the Henshaw well.

The rank wildcats in Howard County were more or less marking time last week. Harrison and associates' No. 1 Dodge is still fishing. Laurel Oil & Gas Co.'s No. 1 Read is shut down at contract depth at 4,007 feet.

New Proration Gauges

New proration gauges for the lime producers in the Roberts Pool show 20 wells to have a potential of 28,567 bbls. daily. The wells are prorated on the basis of a full 24-hour gauge. Below is given a table of the wells gauged by companies and showing the pay zones from which they produce.

May Produce 50 Per Cent

Under a recent order issued by the Railroad Commission the wells are permitted to produce 50 per cent of their potential production. Schermerhorn Oil Co.'s No. 2 Roberts made the best gauge of the wells thus far tested when it produced 4.457 bbls. in 24 hours. Several more lime producers will be gauged during the current week.

Henshaw corporation's No. 1 Settles is expected to be the banner producer of the county. It holds that record at the present time, according to unofficial reports, which credit the well with a production of 4,600 bbls. daily. The gauge of 4.200 bbls. was verified, while the 4,600-bbl. gauge remains unverified. Henshaw corporation is building additional tankage on the lease and will soon have 70,000 bbls. of steel storage on the lease.

Winkler Outposts

Winkler County's main source of interest during the week was in the outpost wells. South of the pool, Arizona Mining & Engineering Co.'s No. 1 Hendricks, Section 10, Block B-12, has been deepened to 2,986 feet and is making 5 bbls. per hour but cutting 15 per cent water. The well had the pay at 2 845 to 2,986 feet. When it first encountered the pay the well made 10 bbls. per hour and showed only 5 per cent water.

Southern Crude Oil Purchasing Co.'s northern extension, No. 1 Hendricks T-88-P, Section 28, Block 26, was plugged back from 2,865 feet, where sulphur water was encountered, to 2,860 feet and is making 800 bbls. of fluid daily, 20 per cent water. The well was making 56 bbls. per hour, 30 per cent water, from a total depth of 2.870 feet.

Farther north, Cranfill & Reynolds' No. 1 Hendricks-F, Section 16, Block 26, is being followed with interest. The well was drilling in anhydrite at 1,115 feet Monday.

Over on the eastern edge of the structure, Southern Crude company's No. 1 T-89-B Hendricks, Section 35, Block B-5, is making 800 bbls. of pipe line oil from pay at 2,838-59 feet. The well is between the Independent Oil & Gas Co.'s McCabe lease and the main pool. Independent company's No. 3 McCabe, Section 36, Block B-5, the farthest east well, got sulphur water at 3,071-84 feet. It is being plugged back and was making 40 bbls. daily, hitting water.

Extending Production

Southern Crude company's No. 1 Hendricks T-88-S, SW cor. NW Section 34, Block 26, is extending production to the northeast a slight distance. The well is making 160 bbls. of pipe line oil hourly from pay at 2,819-20 feet. Production is coming from 413 feet in the lime in this well.

Same company's southwest extensioner got a reversal Monday when it drilled into water. The well, No. 1 Hendricks T-264, Section 5, Block B-12, started flowing at the rate of 300 bbls. daily at 3,177 feet, but drilled into water at 3,179 feet and is shut down for orders.

Company, farm and location—	Well No.	Potential prod. from pay zone 3,000 ft.	Potential prod. from pay zone 2,500 ft.	Allowed prod.
Amerada Pet., D. Ro erts, Sec. 137, Blk. 29	1	.....	623	312
Cosden & Co., D. Roberts, Sec. 129, Blk. 29	1-A	2,565	....	1,282
Cosden & Co., D. Roberts, Sec. 157, Blk. 29	1-D	1,540	....	770
F. H. E. Oil, D. Roberts, Sec. 136, Blk. 29	3-D	.....	451	226
F. H. E. Oil, D. Roberts, Sec. 136, Blk. 29	2-E	.....	500	250
F. H. E. Oil, D. Roberts, Sec. 136, Blk. 29	6-E	1,400	....	700
F. H. E. Oil, D. Roberts, Sec. 136, Blk. 29	1-D	1,200	....	600
F. H. E. Oil, D. Roberts, Sec. 156, Blk. 29	1-C	196	....	196
Magnolia Pet., D. Roberts, Sec. 157, Blk. 29	2	1,025	....	513
Magnolia Pet., D. Roberts, Sec. 157, Blk. 29	3	1,000	....	500
Magnolia Pet., D. Roberts, Sec. 136, Blk. 29	4	3,122	....	1,561
Magnolia Pet., D. Roberts, Sec. 136, Blk. 29	7	.....	543	272
Magnolia Pet., D. Roberts, Sec. 136, Blk. 29	8	1,485	....	743
Marland Oil, Clay, Sec. 136, Blk. 29	1-E	.....	167	167
Cosden & Co. et al, Roberts, Sec. 136, Blk. 29	4-B	.....	655	328
Cosden & Co. et al, Roberts, Sec. 136, Blk. 29	6-B	2,075	....	1,038
Schermerhorn, D. Roberts, Sec. 157, Blk. 29	2	4,457	....	2,228
Sprague Oil, D. Roberts, Sec. 156, Blk. 29	1	1,245	....	622
Sun Oil Co., Settles, Sec. 135, Blk. 29	1	.....	1,658	843
Sun Oil Co., Settles, Sec. 135, Blk. 29	2	2,660	....	1,330
Total	30	23,970	4,597	14,481

ESTIMATED DAILY AVERAGE PRODUCTION—WEST TEXAS
Week Ending October 2

County—	Wells	Bbls.
Crane	268	42,350
Crockett	49	2,884
Ector	2	6
Fisher	5	925
Howard	183	25,146
Jones	40	3,365
Loving	5	246
Mitchell	141	2,474
Pecos	255	78,542
Reagan	224	18,046
Runnels	2	48
Scurry	5	31
Upton	293	14,476
Winkler	382	158.470
Total this week	1,854	347.009
Total last week	1,838	344,549
Difference	16	2,460

The well is about a mile southwest of production and had 2.800 feet of oil in the hole from an upper pay under which a water horizon was also found.

Bankers Production Corp.'s No. 1 Hendricks, in the extreme NE cor. Section 30, Block B-5, located on a 5-acre tract, is being completed for a good well after a comparatively poor initial showing. The well is now making 1,500 bbls. of pipe line oil from pay found at 2,923-79 feet.

Down in Section 50, Block F, Sid Richardson, Frank Kelsey and White Eagle Oil & Refining Co.'s wildcat producer, No. 1 Stockton Cattle Co., will be drilled in this week, barring delays. The plug was being drilled Monday. The well averaged 614 bbls. daily before being closed in. Pure Oil Co.'s deep test in the Hendricks Pool, No. 6-A, NW cor. SW Section 41, Block B-5, will resume drilling in a few days. Six-inch casing was cemented at 3,486 feet.

Cranfill & Reynolds and Sun Oil Co.'s No. 1 Willingham, 660 feet south and west of the SE cor. Section 207, Block 1, in the Stephens Pool of Fisher County, swabbed 258 bbls. the first day, 136 bbls. the second and 103 bbls. the third day from pay at 3,120-23 feet.

The well presents a circumstance that causes many geologists to believe the lime top in this area is a treacherous subsurface marker. No. 1 Willingham topped the lime at 3.067 feet, which is 12 feet higher than the lime top in the same operators' No. 1 Young, 1,990 feet south and east. The pay in No. 1 Willingham, however, was found 15 feet lower than the pay in No. 1 Young, and No. 1 Willingham is a better initial producer than No. 1 Young. No. 1 Willingham extended production 1,650 feet north.

Between the Cranfill & Reynolds and Sun company's wells and the discovery well to the west, Texas Unity Co.'s No. 1 Rudus, Section 211, Block 1, was abandoned at 3 500 feet. The well found the regular Stephens Pool pay dry and is believed to have gone to the King pay, which was also dry.

Pipe Line Reports

Pipe line reports showed oil to be going to storage in West Texas 10 days ago at the rate of around 40,000 bbls. daily. This is a decrease of about 20,000 bbls. from the rate at which crude was being stored the week prior.

The same figures show 10.665 836 bbls. of crude in steel storage in the Hendricks area at the end of September and a steel storage capacity of 16.377.605 bbls., leaving 5,711,769 bbls. of steel storage available.

Tank car shipments from Hendricks during September amounted to 1,340.704 bbls., or shipments at the rate of 44,690 bbls. daily. The refineries near the field took 411.293 bbls. at a daily average rate of 13.709 bbls., while the pipe line moved 97.704 bbls. daily to transport 2,931,145 bbls. over September.

Production of West Texas increased 2.460 bbls., due mainly to the increase in Yates Pool production and an increase in southern Howard County. Yates made its big gain because of the new proration gauges taken on several wells. Winkler County did not get down to its allowed production of 150,000 bbls. until October 3. The gauges for October 3 and three consecutive days are as follows: 149,113 bbls., 149,574 bbls., 145,782 bbls. and 151,755 bbls.

New Yates Proration

The new proration figures for the Yates Pool show it to have a potential production of more than 4,000,000 bbls.

(Continued on Page 153)

WILDCAT OPERATIONS IN WEST TEXAS

Week Ended October 6

Company, farm and location—	Remarks—
ANDREWS COUNTY	
Deep Rock Oil Co.'s No. 1 Hostetler, 2,310 ft. N and W of SE cor. Sec. 20, Blk. A-46	Rig.
BORDEN COUNTY	
Condor Oil Co.'s No. 1 E. A. Hall, 1,650 ft. S and W of NE cor. Sec. 5, Blk. 32, Twp. 3n, T.&P. Sur.	Building rig.
E. L. Doheny, Jr., No. 1 J. J. Koonsman, 330 ft. S and E of NW cor. Sec. 2, Blk. 2, T.&N.R.R. Sur.	Hole full water 290-360 ft.; hole full water 2,085 ft.; shut down 2,531 ft. for repairs.
Teas & Wheeler's No. 1 Long, 1,320 ft. N and E of Sec. 27, Blk. 30, T.&P. Sur.	Location.
BREWSTER COUNTY	
Cowden & Bowser's No. 1-A Jackson & Harmon, Sec. 1, Blk. 231, T.C.R.R. Sur.	Shut down 1,500 ft.
Forrest Oil Co.'s No. 1 Skinner, C SW SE Sec. 100, Blk. 2, G.C.&S.F. Sur.	Shut down 1,145 ft.
J. M. Hickey's No. 1 Jackson & Harmon, NE cor. Sec. 182, Blk. 9, G.H.&S.A. Sur.	Shut down 1,079 ft.
Reese & White's No. 1 Kimbale, C NE Sec. 204, Blk. 9, G.H.&S.A. Sur.	Shut down 2,009 ft.
Van McPhail's No. 1 McIntyre, SE cor. Sec. 59, Blk. 352, 7 mi. S of Alpine	Shut down 1,710 ft.
Williams and others' No. 1 Poncey, 459 ft. S and 1,062 ft. E Sec. 26, Blk. 214, T.&St.L.R.R. Co.	Shut down 360 ft.
COKE COUNTY	
Cates & Dennis' No. 1 Mimms, 2,500 ft. S and 330 ft. E of NW cor. Sec. 47, Blk. 4, T.&P.	Shut down 600 ft.
Lipan Oil Co.'s No. 1 E. C. Rawlings, Sec. 390, Blk. 1-A, H.&T.C. Sur., elev. 2,750 ft.	Shut down 2,836 ft.; pulling 6-in. casing.
Louisiana O. & R. Co.'s No. 1 Powers, 745 ft. S and 2,310 ft. E of NW cor. Sec. 156, Blk. 2	Drlg. 1,025 ft.
Mid-Kansas Oil Co.'s No. 1 W. E. Lackey, 330 ft. N and E of SW cor. Sec 272, Blk. 1-A, H.&T.C.	Drlg. 250 ft.
CONCHO COUNTY	
Exploration Co.'s No. 2 Hartgrove, 906 ft. S and 985 ft. E of NW cor. Johann Scheuch Sur. No. 240	Rig.
Kimberlin et al's No. 1 Maloy, Sec. 319, Ludwig Winkle Sur.	Underreaming 8-in. casing 1,460 ft.
Posey's No. 1 Elvidge, C NW Sec. 39, H.&T.C.R.R. Sur.	Shut down 300 ft.

(Continued on Page 111)

From an article by C. O. Willson in
The Oil and Gas Journal, July 19, 1928

"Another factor in the present profitable operations of refineries is the cracking process. Right at this time *cracking units at most refineries are contributing more to the profits of refinery owners than any other phases of plant operation.*"

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Universal Oil Products Co
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Three Wilcox Failures at St. Louis

Little River Makes New Peak During Week When Flush Pools Are Flowed to Capacity. St. Louis Probably Much Smaller Than Expected

By J. L. Dwyer
Staff Correspondent, Oklahoma Fields

With a full week in which proration was all off, and the flush fields of the State flowed at their capacity, the daily average output of Oklahoma increased approximately 10,000 bbls., making 745,000 bbls. for the week. A new peak production for the Little River area, and the increased water intrusion in the St. Louis Pool were the most interesting bits of news except for the three Wilcox sand fatalities which were used as grave markers for the south and southwest borders of the St. Louis Pool.

There was a wide fluctuation in output for the Greater Seminole area during the week and the shortage of water played a part in this, for there are many drilling wells shut down for operating water in the area. On Sunday, the pools of the Greater Seminole area produced as follows:

	Bbls.
Little River	132,551
Mission	50
Maud	109
Bowlegs	51,751
Earlsboro	81,154
Seminole	42,756
Searight	11,910
Total	320,281

A heavy rain which fell Saturday night supplied water to the area and this assisted a sharp increase in the output of the region on Monday morning when the same pools produced:

	Bbls.
Little River	137,046
Mission	50
Maud	103
Bowlegs	52,249
Earlsboro	80,952
Seminole	43,463
Searight	12,160
Total	326,023

These totals were made by a similar number of wells, namely 1,241. The most of the increase will be noted as occurring in the Little River area, while the remainder of the pools varied only slightly. The Little River Pool is handicapped for water supply more than the older pools of Seminole.

New Peak at Little River

During the past week, among other incidents of oil production, the Little River area established a new peak output producing 138,433 bbls. It is extremely doubtful if Little River will do much more than this, and the consensus of opinion places the peak for all time very close to the last week's high. There are very few drilling operations in the Little River Field at this time, and in almost every case, the wells now drilling are offset by either one or two producing wells which are thought to have exerted a certain drainage influence on the drilling locations. For three consecutive weeks, there has not been a flowing well of importance completed in this area, and the majority of completions when put on the air lift have made an average of between 500 and 800 bbls. per day. The field has now reached the point where wells making 1,000 bbls. per day initially are extremely scarce, even after the air lift is applied. If this continues, the completed well will hardly offset the normal drop in production which the older parts of the field will experience. One of the great surprises of the week came when the Empire Oil & Refining Co.'s No. 1 Charty, NW cor. SE NW, Section 24-7-6, found 3,200 feet of oil in the Wilcox sand from 4,882-85 feet. The extremely low position of this well had caused the thought that it would be a failure in the Wilcox sand. The top of the sand in this well is about 500 feet lower than the top of the sand in the other wells of the vicinity. The Empire Charty well will probably make an ordinary well when the air lift is applied. Any further drilling in this sector will be very slowly started on account of the low position of the sand in the Charty well.

East of Little River

In the territory east of Little River, the discovery well was opened wide all week, and without deeper drilling averaged 1,620 bbls. daily natural flow. This is the Mid-Continent Petroleum Corp.'s No. 1 Smith, NW cor. NE, Section 5-7-5. An important occurrence of last week in this area is the failure of the Phillips Petroleum Co.'s No. 1 Roberts, SE cor. SW, Section 31-8-7, 1 mile west and one location north of the Mid-Continent well. The Phillips well had the Wilcox sand 4,229-38 feet, and was dry. It cuts off any chance of a spread for this region which thus far has not been any too encouraging. There are 11 other drilling operations in this region, and five of them should be completed within 50 or 60 days.

St. Louis Failures

During a week in which several wells were completed, the most interesting occurrences in the St. Louis Pool of Pottawatomie County was the failure of three wells in the Wilcox sand. These three wells were all located in the southeast part of the field, and are almost in a straight line running northwest and southeast through the south part of Section 29 and 30. The failure of these wells spells much for the future of the pool, and eliminates about 400 acres which was considered as having an excellent chance for oil production in the Wilcox sand. The failures must be considered as limiting the south and southeast borders of Wilcox production, and they cover a line 1 mile long. The Independent Oil & Gas Co. and the White Eagle Oil & Refining Co.'s No. 1 Low, NW cor. SE SW, Section 29-7-5, was the farthest southeast well drilling in the pool. It found the Simpson sand 4,356-60 feet, with a hole full of sulphur water. The presence of sulphur water in the Simpson sand in this area has always been followed by the finding of water in the Wilcox formation. The Independent Oil & Gas Co. and the McCulloch Oil Co.'s No. 1 Wise, NW cor. NE, Section 30-7-5, was the second failure. This well topped the Wilcox sand 4,484 feet, and at 1 foot in swabbed 175 bbls. of oil and no water in 12 hours. Deeper drilling found a hole full of water from 4,487-90 feet. The owners will try to plug this well back to the Simpson sand where it had a chance to produce some oil. The Roxana Petroleum Corp.'s No. 1 Stahl, SW cor. NE, Section 30-7-5, was the third failure in the pool last week, and had the sand 4,255-68 feet with a hole full of water. This well caused some surprise as it was running 80 feet higher than the offset wells.

Increase of Water

In spite of several good completions in the field, there was only a slight change in the oil production of the St. Louis Pool for the week. On one day St. Louis advanced to 123,388 bbls. and the average for the week was slightly above 117,000 bbls., a slight decrease from last week's average. There is a steady increase of water in the older wells of the pool, but this is not surprising when the large yield and the deep penetration into the sand is considered.

On the east side of the pool, the Magnolia Petroleum Corp.'s No. 1 Guinn, SW cor. SE NE Section 20-7-5, which opened that region is steadily increasing in the amount of cut oil. This well is now making an average of 1,500 bbls. daily and cutting 8 per cent. The increase in this cut has slowed down the interest which was displayed on this side of the pool. During the past week, the Magnolia Petroleum Co.'s No. 2 H. E. Youts, SW cor. SW Section 20-7-5, was placed on air lift, and made 3,250 bbls. per day. The well was not drilled deeper, and the sand record is 4,202-28 feet. On the same lease, Magnolia's No. 1 H. E. Youts, NW cor. SW Section 20-7-5, was also placed on air and made 4,100 bbls.

The scarcity of operating water continues at St. Louis, and several of the companies are constructing water lines to the North Canadian River 11 miles south.

An interesting wildcat well in Pottawatomie County is the Phillips Petroleum Co.'s No. 1 Sparkman, SE cor. SE SW Section 15-8-4, which is drilling in the upper Mayes formation at 4,041 feet. This well is apparently running rather low.

St. Louis Production

The Wilcox sand production of the St. Louis Pool on Monday morning of this week is given below:

Barnsdall Oil Co.:	
No. 1 Stahl	171
Gypsy-Sinclair et al:	
1 Stahl	6,432
2 Stahl	6,432
Phillips Pet. Co.:	
2 Stahl	6,717
Sinclair Oil & Gas Co.:	
1 Nadash	1,885
Magnolia Pet. Co.:	
1 Hembree	496
2 Hembree	6,595
3 Hembree	7,331
4 Hembree	Off
1 A. G. Youts	759
2 A. G. Youts	2,419
2 C. A. Youts	676
1 Fyke	463
Roxana Pet. Corp.:	
1 Stahl	167
T. B. Slick:	
1 Hembree	4,620
2 Hembree	5,175
3 Hembree	6,500
4 Hembree	Off
1 Youts	3,672
Mid-Cont. Pet. Corp.:	
1 Guinn	770
Independent Oil & Gas Co.:	
1 Youts	6,635
2 Youts	5,135
3 Youts	4,755
4 Youts	3,825
5 Youts	4,215
6 Youts	945
Prairie Oil & Gas Co.:	
1 Wolfe	1,045
Total from 27 wells	87,826

Failure in Maud Area

The Maud area had another failure last week when the Prairie Oil & Gas Co.'s No. 1 Aldridge, NW cor. NE NW Section 12-8-5, was barren in the Wilcox. This well had the sand 4,597-4,600 feet with a hole full of water. It is 1 mile north and a quarter mile east of The Texas Company's failure which was drilled in the same section early this year. The only significance that this dry hole has is that by virtue of its location it limits the chance of production ex-

WILDCAT OPERATIONS IN OKLAHOMA

NORTHERN OKLAHOMA

LATTIMER COUNTY

Limestone Oil & Gas Co.'s No. 1 McMurray, SW cor. SW Sec. 15-5-18 ..... Underreaming 1,718 ft.

GRANT COUNTY

J. V. Bailey and others' No. 1 Maddox, C SE Sec. 18-27-5w ..... Dry and abandoned 5,058 ft.
Cowden and others' No. 2 Vollmer, CEL NE SW Sec. 22-25-4w ..... Shut down 5,640 ft.

HARPER COUNTY

Hoffer Oil Co.'s No. 1 Cooper, NW cor. SE SE Sec. 13 25-22w ..... Shut down 4,130 ft.

KAY COUNTY

Ponca Lee Oil's No. 1 McNeil, NW cor. NE Sec. 32-26-2e.. Dry and abandoned 2,645 ft.
Geo. L. Miller and others' No. 1 Home, NW cor. SE Sec. 11-24-3 ..... Drlg. 3,715 ft.
Larlo Oil Co.'s No. 1 McKay, NW NE Sec., 14-29-1 ..... Drlg. 1,667 ft.
Riley Royalty Co.'s No. 1 Manley, SE cor. NE Sec. 9-26-1.. Dry and abandoned 1,000 ft.
Tonkawa Development Co.'s No. 1 McDaniels, SE cor. SE Sec. 15-25-1w ..... Wilcox sand 4,915-4,926; dry and abandoned.

WOODWARD COUNTY

Otstot Development Co.'s No. 1 Simmons, SE cor. SE Sec. 32-24-17w ..... Shut down for pipe 1,490 ft.
Sharon Oil Co.'s No. 1 Elmore, SW cor. SW Sec. 25 21-21w ..... Rig blown down 3,025 ft.
Billy's Oil Co.'s No. 1 Watt, C SE Sec. 9-23-20w ..... Shut down 500 ft.
Burgoyne Brothers' No. 1 Merklin, SW cor. SE NE Sec. 15-21-19w ..... Drlg. 1,720 ft.
Farrond and others' No. 1 Johnson, SW cor. SW Sec. 1-22-17w ..... Drlg. 1,560 ft.

GARFIELD COUNTY

E. L. Love and others' No. 1 White, SE cor. NW Sec. 9-24-6w ..... Shut down 4,755 ft.
Marland and Barnsdall's No. 1 Loomman, NE SE Sec. 9-20-4w ..... Shut down 5,735 ft.
Marland Oil Co.'s No. 1 Miller, SW cor. SW Sec. 12-20-4w. Shut down at 4,575 ft. waiting on test Sec. 9-20-4w.

NOBLE COUNTY

Alco Royalty Co.'s No. 1 Waltermire, SE cor. NW Sec. 33-21-1w ..... Location.
Marland Oil Co.'s No. 1 Kidd, NW cor. SW Sec. 32-20-1w ..... Shut down at 5,290 ft.; plugging back to show oil 1,836 ft.

KINGFISHER COUNTY

Slick & Harrington's No. 1 Cromer, SE cor. NE NE Sec. 25-19-5w ..... Location abandoned.
Galt-Brown Oil Co.'s No. 1 Wolff, NW SE Sec. 6-16-7w.. Completed contract 4,515 ft.; shut down.
McKinney & Crawford's No. 1 Sturgeon, NE cor. SW Sec. 27-16-6w ..... Shut down 4,509 ft.

LOGAN COUNTY

Champlin Refining Co.'s No. 1 Clark, SE cor. SW Sec. 8-19-4w ..... Dry and abandoned 6,726 ft.
Margay Oil Co.'s No. 1 Cole, SE cor. SW NE Sec. 24-18-5w ..... Rig.
Haley & Smith's No. 1 Guier, SE cor. SW Sec. 23-18-3w.. Shut down 3,940 ft.
Garber & Pulse's No. 1 Widdoes, NE cor. SE NW Sec. 32-18-3e ..... Abandoned 1,200 ft.
J. L. Donahoe's No. 2 fee, SW cor. NW SE Sec. 21-18-2w.. Drlg. 4,214 ft.
T. B. Slick's No. 1 Bryan, SW cor. SE Sec. 28-17-1 ..... Completed 25 bbls. 4,644-54 ft.
Willis and others' No. 1 Sweezy, SW cor. NW SE Sec. 20-17-3 ..... Dry and abandoned 4,732 ft.
Bu-Vi-Bar's No. 1 Kirkpatrick, NE SW SW Sec. 13-16-1w. Dry and abandoned 5,675 ft.

BLAINE COUNTY

Lowen and others' No. 1 Unknown, NW cor. SW NW Sec. 27-16-11w ..... Spudded and shut down; renewing leases.
W. J. Donnelly, trustee's No. 1 Dicken's NE cor. SE Sec. 26-15-12w ..... Drlg. 3,200 ft.
Ragland and others' No. 1 Unknown, C NW SW Sec. 13-19-10w ..... Rig.

(Continued on Page 122)

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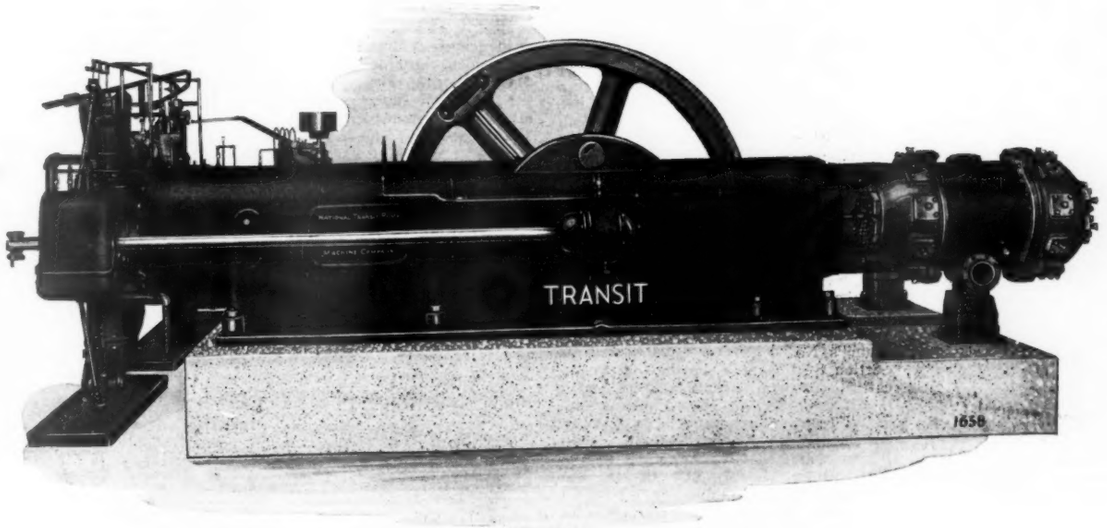
Gas Engine Compressor



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tending from the Mission Pool to the Maud area.

The pipe line movement of oil out of the Greater Seminole area was reduced last week chiefly on account of some station damage which occurred. There was a drop of 7,000 bbls. per day in pipe line shipments which will very likely be made up this week.

In the 1½-mile deep Wilcox sand area of Logan County, the Roxana Petroleum Corp.'s No. 2-A Sevranek has settled down to a steady production. This well is located NE cor. NE Section 30-19-4w, and had the Wilcox sand 6,048-55 feet. The best day's flow was 727 bbls. and the well has settled down to an average of 393 bbls. per day. It will be drilled deeper according to the owners.

In Okfuskee County, the Kingwood Oil Co. will make a Wilcox sand test out of the well which opened the pool. This is No. 1 Holmes, SE cor. SE Section 16-11-11, and there is Wilcox sand production three-quarters of a mile from its location.

At Oklahoma City, the Indian Territory Illuminating Oil Co.'s No. 1, C SE SE Section 24-11-3w, is drilling in shale at 5,508 feet, and is believed to be right above the Viola lime. The casing will be set and the well will be standardized in the Viola, according to the owners. There is some additional tankage being built at this location.

Carter County

The Texas Company has the rig material on the location for No. 1 Eaves, NW cor. SW SW, Section 24-1s-3w. Hall & Briscoe's rig is up for No. 4 Miller, SE cor. NE SW, Section 29-1s-3w. E. M. Boring and others' No. 1 G. R. Fish, SW cor. NW NE SW, Section 35-3s-2w, is drilling at 40 feet.

Schermerhorn and others' No. 1 Crockett, NE cor. NW SW, Section 23-1s-3w, made a 50-bbl. well in sands at 2,294-2,558 feet. Hall & Briscoe's No. 3 Miller, NE cor. SW, Section 29-1s-3w, was completed for 80 bbls. in sands at 2,682-3,064 feet.

Comanche County

Wirt Franklin Oil Corp. made location for No. 1 Hollow, NW cor. Section 2-4-11w. Pewlin Oil Co. staked location for No. 1 Simpson, C SE SE, Section 33-1-9w.

Cotton County

E. J. Stump made location for No. 1 Jones, NW cor. NE, Section 11-3s-10w.

Creek County

A. Avers and others moved a machine in for No. 1 Fulsom, CWL SW SW, Section 7-17-11. Thompson & Black's No. 2 Wilson, NW cor. SW, Section 16-17-11, which is being deepened from 1,949 feet, is now drilling at 2,115 feet. A. J. Spears and others' No. 8 Glenn, SW cor. NE NW, Section 11-17-12, is spudding. Peters Petroleum Co. has the rig up for No. 4 Arsaylee, SW cor. NE NE, Section 21-16-8.

G. Collins' No. 1 Hughes, SW cor. NE SE, Section 26-18-11, made 10 bbls. from Glenn sand at 1,660-1,672 feet. Dedman and others' No. 1 Brown, SW cor. NE NE, Section 13-17-9, is dry and abandoned at 3,068 feet in Wilcox sand. Independent Oil & Gas Co.'s No. 2 Sneed, NE cor. NW, Section 30-17-10, is dry and abandoned in Wilcox sand at 3,011-60 feet. The Prairie Oil & Gas Co.'s No. 17 Childers, SE cor. SW SE, Section 6-17-12, has been abandoned at 2,386 feet in Wilcox sand. Shaffer Oil & Refining Co.'s No. 1 Page, NE cor. SE SE, Section 34-16-10, had Wilcox sand at 3,026-44 feet and made 40 bbls. H. C. Wilson and others' No. 2 Ashbury, NE cor. Section 1-15-10, is dry and abandoned at 3,200 feet in Wilcox sand.

Grady County

Oklahoma Gas Utilities Corp.'s No. 13 Farwell, SE cor. NW SW, Section 26-5-8w, has been completed for 31,000,000 feet of gas at 2,394 feet.

Grant County

Croxton & Bucklin's No. 1 Snouffer, NW cor. Section 26-27-3w, Deer Creek Field, is dry and abandoned at 4,311 feet.

Hughes County

T. W. Atkins has the rig up for No. 1 Reed, NE cor. NW, Section 2-8-8. Johnson and others' No. 1 Turner, NW cor. SE, Section 14-8-9, is drilling at 1,700 feet. Shaffer Oil & Refining Co. is building the rig for No. 1 Harner, SW cor. NE, Section 20-7-8.

Jefferson County

Dye & Fritz' No. 1 Barrett, C SE SE, Section 5-6s-7w, is a rig. McGinley & Sigler's No. 7 Pfile "A," NE cor. NW NW NE, Section 20-7s-5w, is pumping 12 bbls. from sand at 761-90 feet.

Kay County

Carter Oil Co. and Ona Oil Co.'s No. 1 Lambing, C NE NE, Section 19-29-1, is drilling at 155 feet. Nehr & Wilson's No. 1 White, C NW SW, Section 31-28-1, is running 5-inch casing at 680 feet and making 250,000 feet of gas. Superior Oil Corp.'s No. 1 Shultz, NW cor. SE, Section 10-27-1, is underreaming casing at 730 feet. W. F. McComas' No. 1 Hampton, NW cor. SW SE SE, Section 1-28-1w, was completed for 100,000 feet of gas at 800 feet after plugging back from 1,000 feet. Ewing and others' No. 1 Huddleston, NE cor. SE NE SE, Section 28-28-2, has been abandoned at 656 feet.

Lincoln County

Phillips Petroleum Co. made location for No. 1 Roberson, SE cor. NW, Section 29-12-3.

Logan County

Roxana Petroleum Corp.'s No. 2 Stephens, NW cor. SW, Section 29-19-4w, Roxana Pool, has been temporarily abandoned at 6082 feet.

Muskogee County

Babcock Brothers moved a machine to the location for No. 3 N. Barnett, CEL W half NE, Section 8-15-15. Grubbs & Young's No. 3 Friday, CWL SW NW, Section 8-15-15, is a machine on the location. Durham & Smith's No. 1 Smith, C SE SW, Section 18-13-19, is drilling at 100 feet. Sioux Oil Co.'s No. 2 Smith, SE cor. SW SE, Section 18-13-19, is drilling at 450 feet. Blackwood & Schiltz' No. 1 Burr, NE cor. NW SE NE, Section 32-13-19, is spudding.

Babcock Brothers' No. 2 Barnett, CEL SW NE, Section 8-15-15, was completed for 20 bbls. in sand at 1,584-85 feet. J. L. Dixon and others' No. 6 Davis, NW cor. NE NW NW, Section 12-14-18, is dry and abandoned at 966 feet.

Okfuskee County

Paden Oil & Gas Co. has the rig up for No. 1 Brown, SE cor. NE SW, Section 8-12-7. Kingwood Oil Co.'s No. 1 Holmes, SE cor. Section 16-11-11, is an old well drilling deeper at 2,920 feet. W. L. Umbrum's No. 3 Simmer, SE cor. NE NE SE, Section 11-10-10, is spudding.

Tidal Oil Co.'s No. 1 King, NW cor. SW SW, Section 14-10-8, is dry and abandoned at 4,357 feet. Barnsdall Oil Co.'s No. 1 Gilbert, NW cor. SE SW, Section 15-10-9, has been completed for 3,000,000 feet of gas after drilling to 4,177 feet and plugging back to 2,050 feet, and drilling sand at 3,050-74 feet. Jarvis & Holm and Winona Oil Co.'s No. 1 Hen, SW cor. SE, Section 16-10-11, was plugged back from 3,804 feet in Wilcox sand to Salt sand at 1,625-1,707 feet and completed for 40 bbls. after a shot of 180 quarts.

Atlantic Oil Producing Co.'s No. 1 Fife, NE cor. NW, Section 7-10-12, was completed for 20 bbls. in Lyons-Quinn sand at 2,849-60 feet.

Okmulgee County

Papoose Oil Co.'s No. 20 Osborn, NW cor. SE SE, Section 21-15-14, is cleaning out at 1,710 feet preparatory to deepening. The Texas Company moved a machine to the location for No. 4 Hays, NE cor. NW, Section 25-15-14. J. L. Selby's No. 10 Connor, CWL E half NW NW, Section 6-14-15, is drilling at 1,200 feet. W. C. Newman and Atlantic Oil Producing Co. made location for No. 1 Kemp, SE cor. NW, Section 8-13-11. J. L. Brock and others moved the rig material to the location for No. 1 Holleyman, SE cor. NW, Section 25-13-12. F. D. Misener's No. 1-A Thornberry, NW cor. SE SW, Section 13-13-14, is drilling at 530 feet. Penrod & Thompson's No. 11 Reynolds, NE cor. SW SE NW, Section 15-13-14, is drilling at 200 feet. E. J. Lambert's No. 1 Steiger, CEL NW SW, Sec-

(Continued on Page 143)

MARION COUNTY WILDCAT HAS SHOW OF OIL AND 8,000,000 FEET OF GAS

By J. L. Dwyer
Staff Correspondent, Kansas Fields

A showing of oil in a wildcat well near Hillsboro in Marion County, Kansas, was the most important news from the State last week. The wildcat well is Courtney B. Davis' No. 1 Rampel, SE cor. NE SE Section 7-19-3e, which is reported spraying oil from a total depth of 2,452 feet. The horizon which contains the oil has not been fully identified, but is believed to be the chat which produces in the Lost Springs area.

The Davis well is also making 8,000,000 feet of gas per day. After casing was finally seated at 2,250 feet, this well touched the chat at 2,425-27 feet, and made 1,500,000 feet of gas as reported in last week's issue. The gas increased with deeper drilling, and the top of the pay which contained the oil is reported at 2,448 feet. The well is shut down pending the erection of tankage and an oil and gas separator.

This well is approximately 14 miles southwest of the Lost Springs Pool of the same county, and may develop a similar production. It has arrested the attention of the oil fraternity of the State, and will be tested out this week.

The wildcat well of Roth & Faurot in Clay County is being prepared for the pump. This well is No. 1 Bradberg, SE cor. NW Section 21-9-4, which is estimated good for 15 or 20 bbls. daily from chat found 890-915 feet. The well has been untouched for a couple of weeks, and has been standing with 500 feet of oil in the hole. The rods and tubing will be run this week, and if the well makes 25 bbls. daily, it is reported that the owners will drill a second well, using the oil from the original well for fuel.

In the Lost Springs area of Marion County, T. C. Johnston's No. 2 McCoy, SE cor. NW SE Section 15-17-4, is practically dry, and is a disappointment. This well was estimated good for 25 bbls. daily from chat 2,326-87 feet, and was shot. It is now being cleaned out.

Greenwood and Sumner

In northeastern Greenwood County, the Empire Oil & Refining Co. has extended the Lamont Pool one location in No. 11-A Ott, NE cor. SW NW Section 25-22-11, which had sand 1,705-36 feet and after being shot with 120 quarts made 232 bbls. in 19 hours.

In Sumner County, Otstot and others

(Continued on Page 142)

KANSAS WILDCATS

BARBER COUNTY

Barbara Oil Co.'s No. 1 Blunk, C NE NW Sec. 20-34-13w...Drlg. 4,355 ft.
J. K. D. Shaffer's No. 1 Boggs, SW cor. NE SW Sec. 19-33-12w ..... Dry and abandoned 6,185 ft.
Skelly Oil Co. et al's No. 1 Winter, C E half Sec. 17-31-12w ..... Dry and abandoned 4,530 ft.

BARTON COUNTY

Everett & Wiley's No. 1 Ward, NW cor. SW, Sec. 12 20-13w ..... Shut down 3,948 ft.
McJilton et al's No. 1 Evanston, SE cor. NW Sec. 34-17-11w ..... Rig.
Mid-West Exploration Co.'s No. 1 Karst, SW cor. SW Sec. 11-16-15w ..... Spudded.

BUTLER COUNTY

O. H. Fleming et al's No. 1 Brainard, NE cor. NW Sec. 22-24-3 ..... Drlg. 2,770 ft.
Joe Liggett's No. 1 Marti, SW cor. NW SE Sec. 7-28-7...Dry and abandoned 2,726 ft.
LaRobb et al's No. 1 Brensenger, NE cor. SW, Sec. 24-27-3 ..... Rig.
Mid-Kansas O. & G. Co. et al's No. 1 Harsh, NE cor. SW Sec. 5-24-3 ..... Dry and abandoned 2,680 ft.
White Eagle O. & R. Co.'s No. 1 Dixon, NE cor. SE SW Sec. 1-27-6 ..... Dry and abandoned 3,105 ft.

CHASE COUNTY

Griener & Fowler's No. 1 Carson, NE cor. NE Sec. 9-21-7 ..... Drlg. 3,095 ft.

COWLEY COUNTY

Jones & Hall's No. 1 Shapland, NE cor. NW SE Sec. 20-30-6 ..... Drlg. 2,960 ft.
Roxana Pet. Corp.'s No. 1 Galley, NE cor. NW SW Sec. 18-35-3 ..... Shut down 2,050 ft.
Pyle & Sutter's No. 1 Lindstrom, SW cor. NE Sec. 9-35-4 ..... Spudded.
Prairie Oil & Gas Co.'s No. 1 Shane, SE cor. NW Sec. 13-33-3 ..... Drlg. 2,898 ft.
Roth & Faurot's No. 1 Ehmke, NE cor. NW Sec. 14-32-3..Dry and abandoned 3,466 ft.
Crow & White's No. 1 Powers, C NW NE Sec. 9-32-5.....Drlg. 450 ft.
Slick & Martin's No. 1 Aspaugh, SW cor. NE Sec. 27-31-5 ..... Spudded.
J. B. Markey's No. 1 Tatum, SE cor. SW Sec. 11-31-6....Shut down 500 ft.
Jones & Hall's No. 1 Shapland, SE cor. NW SE Sec. 20-30-6 ..... Drlg. 3,125 ft.

DICKINSON COUNTY

Empire G. & F. Co.'s No. 1 Duffy, NE cor. SW SE, Sec. 3-12-3 ..... Dry and abandoned 2,982 ft.
Franks & Johnson's No. 1 Schlessner, C SW NE Sec. 13-16-4 ..... Dry and abandoned 2,323 ft.
Watchorn O. & G. Co.'s No. 1 Mowrer, NW cor. SE Sec. 33-16-4 ..... Dry and abandoned 2,630 ft.

ELLIS COUNTY

Derby Oil Co.'s No. 1 Weigel, C NW Sec. 25-12-17w .....Dry and abandoned 4,068 ft.
Rush Oil Co.'s No. 1 Gatewood, NW cor. NW Sec. 4-15-20w ..... Drlg. 1,100 ft.
Transcontinental Oil Co.'s No. 1 Boetcher, NW cor. SE SW Sec. 21-13-19w ..... Drlg. 2,580 ft.
Finney & Weiner's No. 1 Freeman, SE cor. SW Sec. 24-15-20w ..... Rig.
Labette Oil Co.'s No. 1 Urban NE cor. NW NW Sec. 19-15-16w ..... Drlg. 1,730 ft.
James Brouk's No. 1 Gorham, C SE SE Sec. 35-15-16w...Spudded.
Derby Oil Co.-Empire Oil & Ref. Co.'s No. 1 Krause NW cor. SW SW Sec. 17-14-19w ..... Fishing 2,857 ft.
Phillips Pet. Co.'s No. 1 Brull, C NW Sec. 34-14-17w.....Spudded.
Moncrief et al's No. 1 Johnson, SW cor. NE Sec. 19-13-19w ..... Rig.
John Brown's No. 1 Gestner, SE cor. SW NE Sec. 13-13-18w ..... Spudded and shut down.
Empire Oil & Ref. Co.'s No. 1 Wann, NE cor. NE, Sec. 31-12-19w ..... Drlg. 1,493 ft.
Mid-Kansas O. & G. Co's No. 36 Furthmer SE cor. SE Sec. 25-12-16w ..... Rig.
Phillips Pet. Co.'s No. 1 Shultz C NE Sec. 5-12-17w.....Drlg. 2,630 ft.
Mid-West Exp. Co.'s No. 1 Austin, NE cor. NE Sec. 36-12-16w ..... Fishing 3,045 ft.
Marland Oil Co.'s No. 1 Vine, SW cor. SW SE Sec. 27-11-19w ..... Drlg. 550 ft.
Stearns & Streeter's No. 1 Plummer, NW cor. SE Sec. 2-11-17w ..... Drlg. 2,840 ft.
T. B. Slick, Inc.'s No. 1 Craig, C NW NE Sec. 8-11-16w..Drlg. 1,000 ft.

EDWARDS COUNTY

Amerada & Wilcox' No. 1 Teansil, C NW SW Sec. 32-25-19w ..... Drlg. 3,050 ft.

GEARY COUNTY

Pioneer Oil Co.'s No. 1 Chase, SE cor. SE Sec. 10-12-7....Drlg. 3,250 ft.
Wright et al's No. 1 Younker, NW cor. NE Sec. 17-11-5...Shut down 600 ft.

GREENWOOD COUNTY

Bisagno et al's No. 1 Gilroy, NW cor. SW SW Sec. 8-25-13 ..... Dry and abandoned 1,642 ft.
P. H. Ballew's No. 1 Bright, NE cor. SW Sec. 22-27-12...Shut down 1,210 ft.
Ladow Gas Co.'s No. 1 Lawrence, SE cor. SW SE Sec. 4-27-13 ..... Shut down 1,100 ft.

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Operations in Gulf Coast at Low Ebb

Humble's Completion on DeWalt Dome Only Well of Importance During Week. Production Drops Due to Spindletop

By Nell Williams
Staff Correspondent, Gulf Coast Fields

HOUSTON, Tex., Oct. 8.—The Gulf Coast's sole completion of any importance the past week was Humble Oil & Refining Co.'s No. 1 Camp on the DeWalt Dome, Fort Bend County, which came in flowing initially an estimated 1,000 bbls. of pipe line oil daily. Only eight other producers were reported making a total of only 592 bbls. of initial production. Operations, except in a few spots, were at extremely low ebb the past week, this being particularly noticeable in scattered wildcats, which have been thinned out by numerous abandonments the past few months, and many of the remainder of which are standing idle, especially in southern Louisiana.

Among the exceptions, Spindletop, Gulf Coast's oldest field, still continues the most active spot with 19 rigs now working. The majority of these are run by Yount Lee Oil Co. of Beaumont, which maintains a steady development of its holdings, comprising the bulk of the prospective flank acreage.

The Raccoon Bend district of Austin County also is numbered among the active coastal spots now as a result of recent good wells completed there and five tests either are drilling or rigged up, and on the west flank of Jennings, La., recently opened for deep production, drilling is taking on life with five rigs now working.

The new DeWalt well followed within five days the completion the preceding week of the Humble's No. 3 Sugarland flowing initially at the rate of between 2,700 and 3,000 bbls. of pipe line oil. That well since has been pinched in to between 800 and 850 bbls. The No. 1 Camp, the latest completion, is choked to around 600 bbls. It came in last Wednesday flowing 1,000 bbls. through a three-eighths-inch choke from a total depth of 3,578 feet with 280 feet of 6⅝-inch screen set. The oil tested 29.2 gravity.

DeWalt Output Extended

With the new wells, No. 3 Sugarland being approximately 750 feet to the northwest of the discovery well, and the No. 1 Camp being about 1,750 feet to the east of the first well, production at DeWalt has been spread out from east to west a distance of approximately 2,500 feet. Humble also made location during the week for No. 1 Nelson in the William Little league, the location (150 feet out of the NW cor. of the tract) being 1,500 feet southeast of the No. 1 Camp. This company's No. 1 Dew Brothers, the furtherest south location, has been rigged up and will start drilling at once. No. 1 Deatherage, 800 feet west of production, a deep test, late in the week was drilling hard, sandy lime at 4,228 feet.

Humble also completed small wells at Orange and at Hull, the one at Orange, No. 11 Chessom, flowing 155 bbls. at 3,904 feet, and the one at Hull pumping 50 bbls. at 2,865 feet. Both were former wells worked over. At Spindletop, Yount Lee Oil Co. deepened its No. 2 Davis, an old well, to 3,325 feet, where it flowed 220 bbls. initially. Unity Petroleum Co. also put its No. 97 McFaddin on the pump again for 75 bbls. at 900 feet. Gulf Production Co. has a small pumper at Spindletop in its No. 224 Gladys, a shallow hole.

Weldon Oil Co.'s No. 1 B.B.B.&C. at Saratoga was put on the pump, making only 8 bbls. net oil with considerable fluid from shallow sand at 796 feet, and at Batson, Deutser Oil Co.'s No. 16 Trustee made a 24-bbl. net pumper at 947 feet. South Texas Production Co.'s No. 1 Davidson on the east flank of Blue Ridge, and an old well deepened to 3,848 feet, made a 50-bbl. pumper. At Vinton, Siess Oil Syndicate's No. 10 Green Sanborn is pumping 10 bbls. net at 2,497 feet.

Abandonments during the week included two deep holes at Nash Dome in Rycade Oil Corp.'s No. 14 Nash and its No. 6 Julius Meier. The former was abandoned at 5,675 feet and the latter at 5,393 feet. Vacuum Oil Co. has abandoned temporarily its No. 1 Taylor, 1,600 feet southwest of production on the southwest flank of Boling Dome. Vacuum was to have made another test of the sandy shale at 2,936 feet, from which formation the test flowed at the rate of 600 bbls. daily for a time, but a fire the past week destroyed the rig and badly damaged the derrick, which will not be rebuilt at this time. On the east side of Boling, Sun Oil Co. has abandoned its No. 8 J. R. Farmer after drilling in salt to 3,041 feet.

Gulf Refining Co. is to abandon its No. 45 Star Vincent at Vinton, the well being deepened to 3,418 feet. Cameron Oil Co. has abandoned its No. 1 Deuhon at East Hackberry in heaving shale at 4,017 feet.

Production Declines

Daily average production of Gulf coastal fields the past week totaled 130,364 bbls., a decline of 2,381 bbls. from figures of the preceding week. This decrease was attributed largely to Spindletop, whose decline offset gains made by new production of the preceding week in several other pools. Daily average production by fields for the Gulf Coast and also for Southwest Texas was:

GULF COAST

Texas

Allen Dome	20
Barbers Hill	630
Batson	1,398
Big Creek	3,050
Blue Ridge	6,979
Brenham	150
Boling	1,684
Damon Mound	630
DeWalt	1,172
Fannette	41
Goose Creek	6,595
High Island	653
Hull	12,240
Humble	2,993
Markham	413
Nash Dome	1,085
North Dayton	1,000
Orange	3,783
Orchard	119
Pierce Junction	10,063
Raccoon Bend	740
Saratoga	1,033
Sour Lake	3,308
South Liberty and South Dayton	3,611
Spindletop	37,836
West Columbia	7,460
Total this week	108,686
Total last week	111,623
Decrease	2,949

South Louisiana

Anse La Butte	55
Atchafalaya	1,671
East Hackberry	2,525
Edgerly	876
Evangeline	914
Lockport	3,708
Sorrento	914
Starks	1,244
Sulphur	3,000
Sweet Lake	2,550
Vinton	4,221
Total this week	21,678
Total last week	21,122
Increase	556
Total Gulf Coast	130,364
Total last week	132,745
Decrease	2,381

SOUTHWEST TEXAS

Dale	826
Kingsville	300
Luling	13,975
Lytton Springs	1,190
Somerset	1,996
Miscellaneous	11,015
Total this week	29,302
Total last week	28,933
Increase	469

Raccoon Bend—Austin County

Humble Oil & Refining Co.'s No. 1-B Grawunder is drilling hard sand at 1,006 feet. This company's No. 2 Urban is in hard sand and lime at 671 feet, but shut down temporarily for water. No. 1 Kearns was abandoned as dry early in the week after drilling to 1,048 feet. Rigs now are up for No. 1 Mitchell, No. 1 Beal and No. 1 Hardy is rigging up. A derrick has been completed for No. 1-C Grawunder.

Boling—Wharton and Fort Bend

Gulf Production Co.'s No. 2 E. C. Farmer, James Scott Survey, east flank, is drilling gumbo at 980 feet. Sun Oil Co.'s No. 4 E. C. Farmer is drilling gumbo at 1,295 feet and a rig is up for No. 5 E. C. Farmer. The Texas Company's No. 1 Bushnell, S. Miller Survey, is drilling sticky shale at 3,683 feet. The latter's No. 12-A Taylor on the southwest flank is drilling around 1,200 feet, and a rig is up for No. 2-B Taylor.

Spindletop—Jefferson County

Yount Lee Oil Co. has started drilling deeper in its No. 16 Gladys City, an old well, and is drilling sand and shale at 3,751 feet. No. 49 Gladys City is drilling lime and shale at 4,670 feet. No. 70 Gladys City is in sand and shale at 3,932 feet. No. 71 Gladys City is drilling sand and shale at 2,801 feet, and No. 72 Gladys City is in rock at 3,286 feet.

On the McFaddin lease, Yount Lee Oil Co.'s No. 20 is in shale at 3,988 feet. No. 25 is in sand and shale at 3,289 feet; No. 69 is in shale at 5,154 feet; No. 81 is in gumbo at 3,310 feet; No. 82 is in sand and shale at 3,180 feet, and No. 83 is in shale at 3,535 feet. A derrick is up for No. 84 McFaddin.

Yount Lee Oil Co.'s No. 6 fee is drilling gumbo and boulders at 2,250 feet, and No. 10 fee sand and shale at 2,877 feet.

L. A. Painter's No. 1 Ewing & Ring tested salt water at 5,148 feet and is to be deepened. The second test on this lease has been spudded in and a derrick is up for No. 1 Rush. The Texas Company still is working on its No. 1 Gladys City, northwest of the field. The well, which originally came in for a small producer has been rigging up to pump. Gulf Production Co. is preparing to work over its No. 17-A Marrs McLean. The latter was completed last February, flowing 3,000 bbls. at 5,043 feet. Unity Petroleum Co.'s No. 98 McFaddin has started drilling.

Liberty—Liberty County

Yount Lee Oil Co.'s No. 10 Mitchell, on north edge of production, has oil sand around 3,475 feet and has set and cemented casing for test. The latter company already has a derrick up for No. 11. Sun Oil Co.'s No. 8 Mitchell is drilling around 3,620 feet. This company also has a derrick up for No. 9. Liberty Petroleum Co.'s No. 1 Turner, a wildcat north of the field, is pulling screen to deepen. It made a small well at 1,610 feet. Humble Oil & Refining Co.'s No. 9 Welder, on the South Dayton side of the dome, is drilling gumbo at 365 feet.

Orange—Orange County

Brownie-Babbett's No. 2 McLean, an old well being deepened, is in an oil-showing sand at 3,142 feet. Orange Petroleum Co.'s No. 2 Berwick is drilling below 3,010 feet. Rex Petroleum Co.'s No. 14 Carbello is drilling at 3,627 feet. Sun Oil Co.'s No. 6 Brown is in an oil sand at 4,963-73 feet. Its No. 5 Gunstream is standing at 5,422 feet. This company also is preparing to deepen two more wells, No. 4 Gunstream and No. 1 Belile. Rycade Oil Corp. is pulling screen to deepen its No. 2-C Cow Bayou.

High Island—Galveston County

Gulf Production Co.'s No. 7 George E. Smith is drilling deeper at 2,883 feet in sidetracked hole. Its No. 1 Spencer has cemented 6⅝-inch casing at 3,010 feet. McLean Oil Co.'s No. 14 Cade is drilling below 3,975 feet. No. 11 Cade is milling out at 3,087 feet to deepen.

Hull—Liberty County

Empire Gas & Fuel Co.'s No. 17 Barngrover has started deepening and is down 3,252 feet. Gulf Production Co.'s No. 16 Phoenix is in sand at 3,008 feet. The latter's No. 53 Phoenix is down 4,436 feet. Its No. 24 Morris-Phillips is drilling at 2,675 feet. Republic Production Co.'s No. 40 Dolbear has drilled into an oil-showing sand around 2,298 feet and is preparing to test. No. 85 Dolbear has started deepening, drilling at 1,532 feet. The Texas Company's No. 5 Hannah fee was bailing as the week closed to test sand at 3,380 feet.

Goose Creek—Harris County

Humble Oil & Refining Co.'s No. 74 Simms Smith, northeast of the field, is drilling gumbo at 2,994 feet. No. 3 Jones State Land, an old well in the field, is drilling deeper at 3,449 feet. Jim McMurray's No. 3 Grade Addey is drilling at 2,390 feet.

Pierce Junction—Harris County

On the north flank of the dome, Anderson & Plummer's No. 4 Whitehead is drilling rock at 3,768 feet. Joe Bashara's No. 1 fee is down 4,553 feet. Moody Corp.'s No. 1 Whitehead is sidetracking at 4,035 feet. Albert Plummer has started a new test, No. 1 Whitehead, and is drilling at 912 feet. Shaw and associates No. 2-C Fitzsimmons is drilling sand at 3,916 feet.

Rio Bravo Oil Co.'s No. 9-A Settegast, on the west flank, has encountered a formation showing oil at a total depth of 4,370 feet and has cemented casing to test. No. 9 fee is in hard sandy lime at 4,086 feet. Rio Bravo also is deepening another of its old wells, No. 7-B Settegast, which is in gumbo at 4,465 feet.

Only two rigs now are running on the east flank, these being by the Gulf Production Co., whose No. 6 Cain is drilling at 4,710 feet, and No. 25 Taylor in gumbo at 2,020 feet.

Nash Dome—Fort Bend and Brazoria

Rycade Oil Corp. has abandoned its No. 6 Julius Meier at a total depth of 5,675 feet in hard lime. This test was unsuccessful in fishing. No. 14 Nash also was abandoned during the week as dry at 5,393 feet in shale. No. 13 Wisdom is coring sandy shale at 3,661 feet. No. 24 Wisdom is standing. Rycade and Humble Oil & Refining Co.'s No. 1 Wisdom is rigged up to start drilling at once.

Hardin County Domes

At Batson, Gulf Production Co.'s No. 19 Knight fee has set casing to test at 559 feet. Paraffine Oil Co.'s No. 77 Paraffine is down 916 feet. At Saratoga, Rio Bravo Oil Co.'s No. 85 Jordit has set strainer to test an oil-showing sand at a total depth of 1,243 feet. E. W. Skinner's No. 1 Sessler is drilling below 2,100 feet. No rigs are working at Sour Lake at this time.

Big Creek—Fort Bend County

Navarro Oil Co.'s No. 2 Hausler, B. Wickson Survey, tested salt water at 3,577 feet and has pulled screen and backed up to test at 3,474-3,500 feet. Gulf Production Co.'s No. 49 Davis is drilling at 1,905 feet. The latter's No. 48 Davis is down 3,395 feet in gumbo.

Blue Ridge—Fort Bend County

E. F. Simms' No. 1 Scott, a northwest extension test, is drilling shale at 3,825 feet. Watts Oil Co.'s No. 8 Blakely blew out in sandy shale and lime at 2,097 feet showing some oil. Tel Shaw and associates' No. 1 Blakely is drilling gumbo

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Muskegon Has 1,300 Barrel Initial Well

Caught Fire and Destroyed a Rig but Subdued After 15 Hours. Flowed 200 Bbls. First Two Hours

By Special Correspondent

MUSKEGON, Mich., Oct. 6.—The largest well in the Muskegon Field was brought in with the completion of the Muskegon Development Co.'s No. 1 Zuidema, NW SW, Section 8-10-16, with an initial flow of about 1,300 bbls. a day from the Traverse formation.

The well came in unexpectedly as the biggest gusher in the field when the drill penetrated the producing sands of the Traverse formation at 1,645 feet. As the drillers had expected no more than a small pumper judging by near-by wells, they drilled in without casing.

The result was that the well caught fire and destroyed a new rig which was on its first well for V. M. Vorhees, contractor. It burned for about 15 hours before it was extinguished by a charge of dynamite.

It was shut in within an hour after the fire was put out and flowed 200 bbls. to fill the two auxiliary tanks in the first two hours. An emergency 2-inch line was laid up the hill to the two 1,500-bbl. storage tanks of the Dixie Oil Co. on the Muskegon River bank at an elevation of about 40 feet above the well.

In the first eight hours after the well was opened again it flowed 400 bbls. up the 40-foot rise and into the Dixie storage tanks. During the next 24 hours it flowed 1,294 bbls. and during the second 24 hours it made 1,280 bbls. It dropped to 1,065 bbls. for the third 24-hour test, and 1,028 for the next 24 hours.

Production Increased

Aggregate production of the Muskegon Field was boosted to more than 2,000 bbls. this week for the first time since the discovery well came in last December. Flowing of the Wa-je-sel Oil Co.'s No. 1 Reeths, SW SW, Section 4-10-16, at the rate of about 300 bbls. a day in addition to the flow of 44 small producers in the Traverse formation increased the total production to this new high mark. The Wa-je-sel well has been shut in awaiting installation of a gas trap. It is now pinched down from an initial flow of 5,000,000 feet of gas and about 600 bbls. of oil.

Installation of a gas trap at Carl Prather's No. 1 Thompson, SW NW, Section 12-10-17, Laketon Township, also will boost the production of the field by about 200 bbls. within a few days. This and the Wa-je-sel well are the only commercial producers of oil developed so far in the Dundee formation at about 2,050 feet. They both have a high gas flow causing difficulty with cut oil before the installation of gas traps.

The Dundee Oil & Gas Co.'s No. 1 Cihak well, which seems to be making a commercial producer in the lower Traverse formation at 1,900 feet, was shot this week and flowed 100 bbls. during the first 14 hours. It is in the NW NE, Section 8-10-16, Muskegon Township, and is the first to be a commercial producer at this depth. The oil has a gravity of 37. The well will be tubed.

Two wells were completed dry in the Dundee formation this week. They are the Reed Oil Co.'s No. 1 Torrent, NE NW, Section 17-10-16, and the Continental Motors Corp.'s No. 2 fee, SW NW, Section 16-10-16. Water was struck in the former at 2,044 feet and in the latter at 2,075 feet. The Continental will abandon and plug its No. 2 fee and the Reed Oil Co. is undecided whether to plug or drill deeper.

The Continental also abandoned its No. 3 fee, NW SW, Section 16-10-16, after getting the red rock low at 875 feet. Two new locations have been made north and east of the company's No. 1 pumper, SW NE, Section 16-10-16. Exact locations have not yet been announced.

Bottom of Dundee

The bottom of the Dundee formation was believed to have been reached in Kelley Goldboss' No. 1 Marquard, SW SE, Section 7-10-16, at 2,422 feet. Casing has been run and the well will be carried to a maximum depth of 2,600 feet after which it will be abandoned unless enough dry hole money can be obtained to make it a test of the formations to 3,000 or 3,500 feet. As the top of the formation was encountered in this well at 2,055 feet it has been demonstrated that there is 367 feet of hard limestone in the Dundee here.

The Dixie Oil Co.'s No. 9 Figge, NW SW, Section 9-10-16, will be drilled into the Traverse formation within a few more feet. It is at 1,600 feet and cased ready to drill in. The Muskegon Development Co.'s No. 1 Myler, SW NW, Section 8-10-16, was also drilling into the Traverse formation and is expected to be carried through as wells on either side were dry or practically so in the Traverse.

The Citizens and Lake Shore Petroleum Co.'s No. 1 Meurer, NE SE, Section 8-10-16, has completed a bad fishing job and will be drilled in within a few days. It was at 1,600 feet.

The Dixie Oil Co.'s No. 1 Becker, SE SW, Section 4-10-16, has been drilled out after cementing with a resulting flow of gas and water from the Dundee formation. It has been cemented twice in an effort to save it as a commercial producer.

Two wells are being cemented, Balch and Balch's No. 1 Muskegon County, SW NW, Section 8-10-16, and the Dixie Oil Co.'s No. 1-D Reeths, SW NW, Section 9-10-16. The former will be ready to drill into the Dundee and the latter to drill through the Traverse formation as soon as the cement has set.

The Dixie Oil Co.'s No. 1 Becker, SE SW, Section 4-10-16, has been drilled out after the second cement job and is making gas and water but no oil from the Dundee formation. This was the first well drilled into the lower formation and appears to be about ready for abandonment.

Wells Drilling

Twenty-five other wells are drilling, four below the Traverse and on the way to the Dundee formation and the rest still above the Traverse depth of 1,600 to 1,700 feet. All of these drilling wells are within the four-section square now included in the Muskegon Field.

Ten new wells are being started with rigs moving in, rigging up or spudding within the present limits of the field. They are: Puritan Oil Co.'s No. 1 Burns, SE SE, Section 5-10-16; Johnson Oil Refining Co.'s No. 2 L. Heinz, SW NE, Section 9-10-16; Kelley Goldboss' No. 2 Burns, SE SE, Section 5-10-16; C. M. Bowers' No. 2 Hower, SE SE, Section 5-10-16; C. M. Bowers and others' No. 1 Fagan, NW NW, Section 10-10-16; Reed Oil Co.'s No. 1 Hill, NE SE, Section 8-10-16; Muskegon Oil Corp.'s No. 3 Torrent, NE SW, Section 8-10-16; Reed Oil Co.'s No. 2 Torrent, SE SW, Section 8-10-16; Consolidated Oil Co.'s No. 1 Plunkett, SE SE, Section 8-10-16; and the Lake Shore Petroleum Co.'s No. 2 A. Heinz, NW SE, Section 8-10-16.

Rigs are moving in for two new locations in Laketon Township, near Carl Prather's No. 1 Thompson, SW NW, Section 12-10-17, and one new rig is up and ready to spud for the first offset. The Reed Oil Co.'s No. 1 Young, SE NE, Section 11-10-17, is to be spudded next week. The other two are the Johnson Oil Refining Co.'s No. 1 Adams, NW SE, Section 9-10-17, and the Lima Oil Corp.'s No. 1 Shuler, NW NW, Section 12-10-17. Rigs are moving in for these two wells, the former about 2 miles west of the Prather well and the other an offset to the north.

The Johnson-Adams well is on a location not previously announced. The other new locations in Laketon Township have been announced this week. They are: Johnson Oil Refining Co.'s No. 1 Savacool, SW SE, Section 2-10-17, and H. C. Nelson and others' No. 1 Andree, NW SE, Section 12-10-17.

New Locations

Three new locations in Section 7-10-16, which lies between the proven field and the new Laketon Township area, were announced this week. They are: C. M. Bowers' No. 1 Curtis, SE NW, Section 7-10-16; C. Wilbur White's No. 1 Luinstra, NW NE, Section 7-10-16; D. L. Appel and others' No. 1 North Muskegon Development Co., NE SE, Section 7-10-16.

Organization of three companies to operate on three definite tracts was announced this week. Their first wells will be as follows: Central Gas & Oil Co.'s No. 1 Joldersma, NE SW, Section 8-10-16; Creek Land Development Co.'s No. 1 Wittels, Section 34-11-15, Cedar Creek Township; and the United Gas & Oil Co.'s No. 1 Cooper, NE SW, Section 8-10-16.

Little was accomplished in the drilling of two wildcat wells in Muskegon County. S. B. Ridenour's No. 1 Antisdale, SE SE, Section 2-9-16, is drilling at 1,900 feet on the way to the Dundee formation after having experienced difficulty with several fishing jobs. Fink Development Syndicate's No. 1 Nash, SW NW, Section 20-9-15, Ravenna Township, finished a fishing job at 800 feet and was drilling again.

Lima Oil Corp.'s No. 1 Atwood wildcat, SW NE, Section 6-11-13, Ashland Township, Newaygo County, has been spudded in and is now drilling.

The Hesperia Oil Development Co.'s No. 1 Frank Darlington wildcat, SE SE, Section 27-10-15, Oceana County, has a rig coming in from Texas with rig builders and a crew to superintend operations. The well will be drilled on "tour."

The location of Edward DuVall's No. 2 Carrie Mears well was announced as NW SW, Section 36, Golden Township, Oceana County. The rig is being moved and the well will be spudded in next week.

W. B. Berwald, of the Bartlesville station of the petroleum division of the United States Bureau of Mines has succeeded R. R. Brandenthaler, of the same station, here temporarily as supervisor of operations and advisor in mudding and drilling in new wells.

HIGH MARK IN DRILLING ACTIVITY REACHED IN TURNER VALLEY FIELD

By Victor Lauriston
Staff Correspondent, Canadian Fields

CHATHAM, Ontario, Oct. 6.—A new high mark of drilling activity has been reached in the Turner Valley Field, with more than 30 tests active. Of the 30 drilling tests, 12 are being put down by Imperial Oil, Ltd., subsidiaries, including 8 by Royalite Oil Co., 1 by Dalhousie Oil Co., and 2 by Home Oil Co. Seven tests are in the deep lime, these including Foothills Oil & Gas Co.'s No. 1, Royalite's Nos. 9 and 14, and Dalhousie's No. 6, of the Imperial group, and Calmont, Oils Okalta Oils' No. 1, and Spooner Oils' No. 1. The majority of these deep tests should finish within a few weeks.

McLeod Oil Co.'s No. 4, LSD 16, Section 1-20-3w5, is on the separator and, with back pressure increased to around 500 pounds, has been making about 100 bbls. a day. This well is somewhat of a puzzle, as it showed a wet gas flow of 20,500,000 feet a day, some 3,000,000 feet more than the Royalite's No. 4 gusher, and the latter averages 500 bbls. a day. The early gas flow in the Royalite's No. 4 was comparatively dry, and the gasoline content gradually increased, and the same is perhaps the case with McLeod's No. 4. It is only recently that the pipes at McLeod's No. 4 have become frosted. The back pressure will be gradually increased to around 1,000 pounds, when a larger production is anticipated. McLeod's No. 1, same LSD, which got its deep production at 3,915 feet is also on the separator with between 350 and 400 pounds back pressure, and making between 25 and 30 bbls. a day. The well froze some time ago, and in an attempt to clean it out a string of tools was lost in the hole after it had been deepened to 3,930 feet. The drillers have been fishing, but will temporarily abandon the job to finish McLeod's No. 3; the latter is at 4460 feet and running 6¼-inch casing after drilling past a lost string of tools. At 4,460 feet McLeod's No. 3 is stated to be still in the Fernie shales, with some distance still to go before reaching the lime.

Increase in Showings

Calmont Oils, LSD 2, Section 1-20-3w5, is at 5,630 feet and still drilling past the lost tools. At this depth the drill is near the bottom of the string. A dynamite charge was used recently to clear an obstruction 15 feet below the top of the string; the latter is stuck about 18 feet above the bottom of the original hole. Crude oil is being bailed in small quantities, with some increase in the oil and gas showings as the hole is cleared.

Spooner Oils' No. 1, LSD 12, Section 13-20-3w5, is drilling at 5,190 feet, about 510 feet in the deep lime. During September over 1,200 bbls. of light crude was bailed while drilling, but it is thought if the hole were clear it would make up to 100 bbls. a day. The outfit, running one nine-hour shift, is making up to 10 feet a day, a diamond drill outfit being used. The gas flow is around 7,000,000 feet a day. Spooner's No. 2, Section 24-20-3w5, is drilling in the Fernie shales at 4,190 feet, at which depth it is about 1,000 feet higher than No. 1. No. 2 is expected to get the deep lime around 4,440 feet. Vulcan Oils' No. 1, LSD 11, Section 13-20-3w5, is again frozen with the entire crude naphtha production cut off.

Okalta Oils' No. 1, LSD 1, Section 1-20-3w5, has started drilling into the deep lime, after cementing 6¼-inch casing in the top of the lime at 4,920 feet. The diamond drill is now around 4,950 feet. Okalta's No. 3, LSD 9, same section, is drilling around 1,200 feet. Okalta's No. 2, LSD 7, same section, is

(Continued on Page 141)

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Gypsy Gets Big Gasser in New Mexico

Well in Wildcat Territory May Be Important Discovery.
Increased Number of Completions in Rocky Mountain Area

By Tolbert R. Ingram
Staff Correspondent, Rocky Mountain Area

DENVER, Colo., Oct. 6.—The Rocky Mountain area reported a larger number of completions and abandonments than usual this week with several wells drilling at very interesting stages. In New Mexico, the Gypsy Oil Co.'s No. 1 Ramsey in Lea County, was making 10,000,000 feet of gas at 3,244 feet when operations were suspended to move back the boiler. The Midwest Refining Co.'s No. 19 Farnsworth, in Lea County, showed for 8 bailers per hour of oil at 3,450-60 feet. The George F. Getty, Inc.'s No. 3 Rawson, in the Twin Mounds district, has been shut in for lack of pipe lines and is estimated at 250 bbls. from a total depth of 1,397 feet.

In Utah, interest at present is centered in the Utah Southern Oil Co.'s test on the Cane Creek Dome which is 200 feet below the horizon in which salt was encountered in the discovery well without encountering salt and the formations appear to be running more regular. Two wells north of the Great Salt Lake which have been idle for some time were reported abandoned.

In Colorado, three wells on the Iles Dome in Moffat County failed to find oil in the Sundance, and two of these have been abandoned. The Midwest has one well showing for a producer on the structure and the Texas Production Co. is starting one new operation. The Wilson Creek test of the Texas Production Co., and the Poose Creek test of the Union Oil Co. of California, both in Rio Blanco County, have been abandoned and one new test in that region is being started. The Texas Production Co. has completed two producers and one failure on the Tow Creek Dome in Routt County and is starting another well. In Larimer County, the Union Oil Co. of California has two completions, one a 500-bbl. well on the Wellington Dome. A 450-bbl. shale well was completed in the Florence-Canon City district in Fremont County by the St. Mary's Oil Co., and the Travis-Vogel-Raddatz interests have a 187-bbl. well in the south extension and the Continental Oil Co. one failure.

In Wyoming, the discoveries in the Texas Production Co.'s wildcat on the Alkali Butte Dome and in the Producers & Refiners' test on the Muskrat Dome, both in Fremont County, continue to attract attention. The first is still flowing 200 bbls. and is not yet in the sand, and the Muskrat well is blowing approximately 50,000,000 feet of gas, both opening new pools. In Oregon Basin, the Cody Petroleum Co.'s No. 4 Klindt was completed with an initial production of 1,500 bbls., and Charles E. Orchard's No. 2 Rue started off at 250 bbls. per day. Several other wells are drilling in and a few new operations are getting under way. The Wyoming Associated Oil Co. had a 209-bbl. shale well in Salt Creek, and there were two failures in the southern part of the State.

New Mexico

The Gypsy Oil Co.'s No. 1 Ramsey, SW cor., Section 34-21s-36e, on the Eunice high in Lea County, supplied the principal news of importance for the week from New Mexico. This well, which is in wildcat territory, on a high that comes out of Texas on the east, is making approximately 10,000,000 feet of gas from a total depth of 3,244 feet and gives very favorable indications of developing into an important discovery. The operation is 10 miles southeast of the Empire Gas & Fuel Co.'s No. 1 State, approximately the same distance west of the Texas line, 23 miles north of the Marland Production Co.'s No. 1 Eaves gas well, and 16 miles southwest of the Midwest Refining Co.'s No. 1 State on the Hobbs high. The base of the salt was found in this well at 2,900 feet and at 3,062 feet it had a show of gas and a little oil. The 8¼-inch was cemented at 3,071 feet about August 1 since which time the operation has been idle.

Drilling was resumed the past week and at 3,218 feet, it encountered a flow of approximately 1,000,000 feet of gas. The tools were blown up the hole, but were recovered without difficulty. The gas increased at 3,222, 3,232, 3,240 and at 3,244 feet, the aggregate from the different horizons being around 10,000,000 feet, when drilling was suspended to move back the boilers.

Next in interest is the Midwest Refining Co.'s No. 19 Fransworth, SW SW, Section 12-26 37, 5 miles to the northeast of the Eaves gasser. It had a show of oil amounting to eight bailersful per hour from horizon at 3,450-60 feet, and is now drilling at 3,530 feet. This well is on the eastern side of the structure which lies just north of the boundary between Lea County, New Mexico, and Winkler County, Texas. Same company's No. 1 State, NE cor., Section 9-19-38, on the Hobbs high, is shut in at a total depth of 4 203 feet awaiting the erection of a 55,000-bbl. storage tank. The available storage (13,000 bbls.) is all full. This well averaged 528 bbls. per day on a seven-days' test before being shut in.

The Marland Production Co.'s 10 operations in this county show no material changes from last week. Its No. 1 Lynn, NW cor. SE, Section 26-23-36, is bottomed at 2,850 feet waiting for cement to set, and is moving out cable tools to make way for rotary, and its No. 1 King, NE cor., Section 26-25-32, is drilling at 1,540 feet in anhydrite. Same company's No. 1 Brooks, NW cor. SW, Section 8-20-33, is drilling at 1,405 feet in anhydrite, and it No. 1 Danciger, SW cor., Section 7-23-36, is drilling in a water sand at 1,780 feet, and making 2½ bailers per hour. It topped the salt at 1,725 feet. The Marland's No. 1 Eaves, SW NE, Section 19-26-37, the big gas well which has made no new depth for nearly two months on account of a fishing job, is still bottomed at 3,000 feet and trying to kill the gas. The relief gates will not hold the high pressure. No. 1 Sholes, NW cor. SW, Section 19-25-37, 6 miles to the north of the Eaves well, is jarring on tools at 3,030 feet. At this depth it was making approximately 50,000,000 feet of gas two months ago when efforts to drill deeper began. No. 1 Reed, NE cor. SW, Section 22-20-36, has rig completed; No. 1 Warren, SE SW, Section 28-20-38, is building derrick; No. 1 Meyer, SW NW, Section 26-20-37, is building derrick; No. 1 Slattery, Section 7-22-35, is rigging up, and No. 1 Lockhard, NE NW NW, Section 31-21-36, is shut down for water after spudding. Cecil Bordages' No. 1 Hughes, Section 27-19-38, is drilling at 3,845 feet in anhydrite showing traces of lime, and the C. E. Reynolds Drilling Co.'s No. 1 Anderson, C SE, Section 29-13-37, is drilling at 4,510 feet in anhydrite. Cranfill & Reynolds' No. 1 State, SE NE, Section 23 26-36, is drilling below 1,250 feet, and the Curtis Drilling Co.'s No. 1 State, SW NE, Section 22-18-34, is shut down at 1,150 feet waiting for 8¼-inch casing. The Skelly Oil Co.'s No. 1 Joyner, NE cor. SE, Section 26-25-36, is fishing. Total depth is 2,390 feet, the Section 17-26-37, is setting up rotary; its bottom being in salt. Hill & Abel's No. 1 Maechtel, SW cor., Section 5-26-33, is drilling below 100 feet. The Texas Production Co.'s No. 1 Moberly, NW SE, No. 1 Cagle, NE SW, Section 9-26-37, is drilling at 652 feet, and its No. 1 Shepherd, SE cor. NE, Section 6-26-37, is drilling at 2,605 feet. It found the base of the salt at 2,605 feet, and the top of the brown lime at 2,647 feet. The 8¼-inch was cemented at 2,665 feet.

Eddy County Producer

In Eddy County, George F. Getty, Inc.'s No. 3 Rawson, SE SW, Section 13-20-29, in the Twin Mounds district southeast of the Artesia Pool, is listed as a completion and is shut in for lack of pipe line facilities. The total depth is 1,397 feet, the hole being bottomed 2 feet in the pay. It swabbed 430 bbls. in 24 hours and is estimated good for 250 bbls. on steady production. Flynn, Welch & Yates' No. 1 Jackson, NE Section 13-17-30, is fishing for bit at 1,575 feet. It found the base of the salt at 1,265 feet. Same company's No. 55 State, Section 32-18-28, in the Artesia Pool, is drilling below 600 feet, and Leonard & Levers' No. 1 Haggerty, NE NW, Section 18-16-30, is shut down at 1,910 feet to run the 8¼-inch.

The only operation in Chaves County active at this time is Snowden & McSweeney's No. 1 Merchant, NW NW, Section 27-15-23, which is fishing for bailer after running the 6⅝-inch to 2,545 feet.

In Guadalupe County, the Navajo Oil Co.'s No. 1 Goard, NE cor., Section 10-2n-17, on the Vaughn structure, is reported to have lost its rig by fire. Drilling was resumed recently at 2,570 feet after being idle for some time.

San Miguel County has a new operation in R. H. Benedict and others' No. 1 Benedict-Wilson, SW NE, Section 25-17n-16e, which has commenced spudding.

In Curry County, the Frio Oil Co.'s No. 2 Sanders, NW NW, Section 11-5n-35, on the Blanco Creek structure, is reported to have contracted with John Kegan, of Texas, to drill it down to 2,000 feet. It has been standing at 1,225 feet since last fall.

A new operation in Roosevelt County is J. T. Kegan and others' No. 1 Pepper, Section 6-1-36, for which material is being moved to location.

In San Juan County, the Continental Oil Co.'s No. 17, Section 2-29-19, on the Rattlesnake Dome, is again delayed by a fishing job at 6,338 feet. This is a Pennsylvanian test and is getting rather deep. The Iowa Oil Syndicate's No. 1 Viles, SE SE, Section 28-29-11, in the Kutz Canon district, set casing at 750 feet, and is believed to be near the first sand in the Farmington series. This is the reorganized Co-Ne-Mo Oil Co. The Huntington Park Oil Co.'s No. 2, SE Section 29-30-9, in the Blanco district, is rigging up Star machine. R. R. Burke and associates are starting a new operation in the Stony Butte district in their No. 1 Deneen, NW NW, Section 18-21-13, and is drilling below 200 feet. H. L. Hall and others' No. 1, Section 18-22-13, in the same district, is drilling at 800 feet, and the Midwest Refining Co.'s No. 22, Section 36-22-14, is bottomed at 1,677 feet and fighting water trouble.

Utah

Utah had little out of routine to report for the week. Two old wells in Box Elder County, in the Great Salt Lake region, are reported abandoned. These are the Leonora-Raddatz Syndicate's No. 1 near Rozel, in Section 14-9-8, which has been idle since last fall when it drilled through an igneous dyke at 2,132 feet. The rig is reported sold. It struck a bed of solid asphalt which was interpreted to mean that any oil at that location in the past has been burned up or has migrated. The other abandonment is the Lakeside Oil Co.'s No. 1, Section 31-9-7, which last fall was reported bottomed at 2,710 feet and drilling.

The Utah Southern Oil Co.'s No. 1-A J. L. Shafer, Section 36-26-20, on the Cane Creek Dome, in Grand County, joint with the Moab Consolidated Oil Co., is at an interesting stage. It is bottomed at 2,048 feet in blue shale and underreaming to set the 8¼-inch at 2,046 feet, efforts to mud off the water at a higher horizon having been unsuccessful. At 2,048 feet the drill left the limey formation and entered the blue shale which is showing considerable gas. Drilling will not be resumed until water shutoff is effected as the drill is nearing the objective horizon. So far, the drill has not encountered any salt, although salt should have been encountered 200 feet higher had the formations correlated with those in the discovery well a mile to the south. This indicates that Cane Creek is a salt dome, the theory under which this test is being drilled. Same company's No. 1 King, Section 13-23-20, on the Salt Valley structure, is drilling at 745 feet in red shale. The log indicates that it is cutting regular carniferous beds. Same company's No. 1 Farnsworth, Section 29-4s-1e, on the Pleasant Valley structure in Uinta County, is drilling at 75 feet in oil sand.

In Grand County, the Navajo Petroleum Co.'s No. 1 State, Section 2-20-21, in the Cisco district, is drilling at around 2,100 feet, and the Big Six Oil Co.'s No. 1 Randall, Section 10-22-19, on the Crescent Dome, is fishing for bit. It is bottomed at 1,710 feet in the La Plata sandstone, and the Shinarump is expected within the next 300 feet. The Intermountain Venture Corp.'s No. 1 McCarthy, Section 27-21-19, on the Crescent Dome, is running the 10-inch at 1,602 feet. It is reported showing a little gas believed to be coming from the Lakota.

The Continental Oil Co.'s Boundary Butte test in Section 23-43-22, in San Juan County, is sidetracking at 3,700 feet, and the Phillips Petroleum Co.'s No. 1 Shick, Section 16-27-16, on the Barrier Creek Dome in Wayne County, is drilling at 3,400 feet. The Maud Ellen Oil Co.'s No. 1, Section 28 3s-21e, on the Neal Dome in Uinta County, is drilling at 1,220 feet in lime, shell and red sandy shale. It has had small shows of oil from 1,150 feet to present depth. It is expected to test all the Pennsylvanian sands down to the Madison at 2,600 feet. The Diamond Oil Co.'s No. 3, Section 29-8s-5e, Utah County, has sidetracked tools and is drilling at 1,560 feet, and the Ashley Valley Oil Co.'s No. 1, Section 22-5s-22, on the Ashley Valley Dome in Uinta County, is delayed by a parted 10-inch string at 1,135 feet the shoe being left in the hole. The 8¼-inch will be run.

Colorado

On the Iles Dome in Moffat County, Colorado, the Texas Production Co.'s No. 6 Parkinson, NW cor., Section 23-4n-92, is being plugged and abandoned at a total depth of 3,905 feet after cutting all horizons down to and into the Sundance, the latter showing water. The formations failed to correlate with same company's No. 5 Parkinson, an offset which is a good producer, and the supposition is that a fault cuts off the production at this location. Shaffer Oil & Refining Co.'s No. 205 Yarg, NW NW, Section 26-4-92, joint with the Yarg Producing & Refining Co., drilled 200 feet into the

Sundance and failed to find anything worth while. It is being abandoned at 4,166 feet. The Sundance was topped at 3,964 feet. The Morrison sands also carried water. The well was considerably down on the structure.

The Midwest Refining Co.'s No. 4-SD Shaw, NW NE, Section 27-4-92, (formerly No. 4-M Shaw) has cemented casing at 3,288 feet to shut off the Morrison sand which has given trouble with water over a period of months, and will drill on down to the Sundance. This well made 1,041 bbls. naturally the first 24 hours last December, but water intrusion soon took place and after trying for many months to shut it off, it was decided to cement off the horizon and continue to the original objective. Same company's No. 24-SD Parkinson, NE SE NW, Section 22-4-92, is ready to spud, and its No. 3-SD Shaw, NW NE NE, Section 27-4-92, is drilling at 2,740 feet in green shale and sand. No. 8-SD-2 Parkinson, NW NW, Section 23-4-92, is showing for a producer. It is drilling at 3,288 feet in gray sand. The Morrison was topped at 3,280 feet. The hole was full of oil from shale above the sand at 3,243 feet.

The Texas Production Co. is starting one new operation in its No. 36 Lloyd, 220 feet each way out of the SE cor., Section 21-4-92. Tools are being moved in. The Alliance Oil Co.'s No. 1 Milliken, SW cor., Section 14-4-92, cut the Sundance at 3,775 feet, the sand showing a little oil and then turning to water. It will be plugged back to a showing in the Morrison and shot in an effort to make it a commercial producer. On the Moffat Dome, the Texas Production Co.'s No. 5 Wick, Section 10-4-92, is drilling at 4,550 feet and is believed to be close to the first Morrison sand. This well was a producer from the shale above the Dakota for some time, but was outside the productive contour of the Dakota sand. It is now through that horizon, which contained water as expected and is now drilling towards the Sundance. On the Hiawatha Dome, the Ohio Oil Co.'s No. 1 State, SE cor., Section 16-12-100, is drilling at 2,500 feet. This well is being deepened under a contract with the Reiter-Foster Oil Co., which drilled it to 2,240 feet.

Rio Blanco County

In Rio Blanco County, two wells were abandoned and one new operation has commenced spudding. The Union Oil Co. of California's No. 1 U. S. Consolidated, SW NW SE, Section 10-2n-88, on the Poose Creek structure, was abandoned at 1,017 feet. It started in the lower Mancos shale and tested all horizons down to and including the White Cliff (Sundance). The Texas Production Co.'s No. 1 Freeman, SE NW SE, Section 27-3n-94, on the Wilson Creek structure, tested the sands in the Dakota and was abandoned at 5,913 feet. This well commenced spudding in September, 1926, and it was not expected that anything of importance would be found above the Dakota, which was expected at around 5,800 feet. The structure is very large and looked promising. The Dakota generally is considered an artesian water sand and where oil has been found in it, there is a strong belief that it has migrated from lower horizons. The Wilson Creek Dome has almost no faulting and the results are considered by some as going a long way in substantiating this theory as the structure is an almost perfect dome.

The new operation in Rio Blanco County is the White Eagle Oil & Refining Co.'s No. 1, NW NW SW, Section 9-2s-96, on the Piceance Creek structure, which is spudding at 60 feet. The rig was erected last fall by the Argo Oil Co., and was taken over by the new interests in a deal between the White Eagle and A. C. Lighthall, of Denver, and associates who control approximately 5,180 acres. Unlike the other tests in this county referred to above, this well is a test of the Tertiary formation. It will be watched with more than ordinary interest on account of the possibilities of that formation in that area. In the past some Tertiary tests have been drilled in northern and eastern Wyoming, but the results were discouraging. On the other hand, the Tertiary in southwestern Wyoming, eastern Utah and western Colorado, is looked upon with considerable favor. That formation in northern and eastern Wyoming proved to be of fresh water deposition while that in Colorado, Utah, and southwestern Wyoming is a salt water deposition and more like the same formation in California from which most of the oil in that State is produced. Also, wildcatting in the area of the salt water deposition in this region has yielded encouraging results. The LaBarge Field in southwestern Wyoming is producing from the Tertiary, and the big gas wells on the Hiawatha Dome on the Colorado-Wyoming boundary are supposed to be in the same formation. The White River structure in Rio Blanco County also yielded large flows of gas and showings of high grade oil in the few tests which have been drilled. Several Tertiary tests now are being drilled across the line in northeastern Utah and another is being started in southern Wyoming on the Baggs structure. The immense oil shale beds in this region are found in the Green River formation of Tertiary age.

Complete Shale Well

In Routt County, the Texas Production Co.'s No 2 Irwin-Carstarphen, NW SE NW, Section 5-6n-86, on the Tow Creek Dome, has been completed as a shale well at 3,435 feet and is making 80 bbls. a day on the pump. The same company's No. 1 Wilbur Rule, SW cor. NE, Section 5-6n-86, which was completed last January as a nominal producer, has been abandoned at 4,289 feet, and its No. 1 Edwards, SE SW, Section 8-6-86, is pumping an average of 5 bbls. per day from shale at 3,344 feet and is listed as a completion though it may be deepened at a later date. The Texas company is digging cellar for its No. 5 Henry Dennis, NW cor., Section 17-6-86, and its No. 4 Belle Dennis, NE SE, Section 7-6-86, a rotary test to the Sundance, is drilling at 3,699 feet. Same company's No. 1 State-Oliver, NE SW, Section 18-6-86, is bottomed at 2,325 feet and cleaning out at 1,985 feet.

In Jackson County, the Continental Oil Co.'s No. 1 Hoye, Section 34-9n-78, on the South McCallum Dome, one of the freak noninflammable gas wells which freezes up everything with which the gas comes in contact, lost most of the surface buildings by a fire supposed to have resulted from sparks from some burning oil. It is rumored that the company may drill another well near this operation in an effort to overcome the almost insurmountable difficulties in getting through the gas horizon and test the lower sands in which it is hoped the peculiar gas will not be found. The Producers & Refiners Corp.'s No. 1 Hendershot, Section 2-6n-86, on the Pole Mountain structure, is preparing to resume drilling at 948 feet after cementing the 15½-inch at 942 feet.

Interesting Wildcat

A wildcat in Larimer County which is attracting considerable attention is Stanley Barrows' No. 1 Hayden, NW cor. SE, Section 7-11n-68, on the Round Butte structure, just south of the Wyoming line, and about a mile to the east of a well drilled a number of years ago by the Cactus Petroleum Co. which yielded very important data concerning the formations in northern Colorado and which influenced the wildcatting that resulted in the bringing in of the Wellington and Fort Collins structures. No. 1 Hayden is bottomed a few feet in the Dakota sand at a little below 1,700 feet. The 6⅝-inch casing was run to the top of the Muddy sand at 1,652 feet and that sand, which showed water, has been drilled through. The Dakota showed some oil through the water and the latter did not increase, indicating that there is no water in the lower horizon. Underreaming to lower the casing and make a shutoff of the Muddy before drilling deeper is in progress. On the Berthod Dome in Larimer County, the Five Square Oil & Gas Co.'s No. 1 State, SW SW, Section 16-4n-69, is bottomed at 2,640 feet. The 8¼-inch became frozen while being lowered and it is now being pulled. On the Wellington Dome, the Union Oil Co. of California has two completions in its No. 7 Buckeye, SE Section 31-10-68, which is bottomed in the Muddy sand at 4,525 feet and made 500 bbls. initial after installing gas lift, and the same company's No. 3 Scott, SW SE, Section 6-9-68, which is pumping 250 bbls a day from the Muddy topped at 4,280 feet. It was completed at 4,320 feet. Same company's No. 1 K.W.&B., SW cor. NE, Section 19-8-68, on the Fort Collins Dome, suspended drilling in the Muddy sand at 4,685 feet. It is being swabbed after a shot and probably will make a 100-bbl. well. This company's only drilling well is its No. 4 Gault-Piatt, NW NE, Section 7-9-68, on the Wellington Dome, drilling at 860 feet.

In the southern part of the State, the St. Mary's Oil Co. completed a well on the Beltramo lease in the west extension of the Florence Field in Fremont County which is making 450 bbls. per day two weeks after it reached the pay. This is an unusual well for that district where all the oil comes from the shale. The pay was found at a total depth of 2,150 feet. Travis, Vogel & Raddatz' No. 19 Travis, on the Hester lease in NW Section 33-20-69, in the south extension of the Florence Pool, was completed at 1,980 feet and made 187 bbls. the first 24 hours. The Continental Oil Co.'s No. 2 Robbins, SE NE, Section 3-19-70, was dry and abandoned at 3,595 feet.

In the south extension of the Florence Field, in Custer County, the Slevin Oil Co. is drilling at 435 feet in its No. 5 Slevin, NW NE NE, Section 5-21-69.

In Huerfano County, the Parker Club, Inc.'s No. 1 fee, CNL NW SE, Section 4-28s-68, on the Badito-Alamo structure in Huerfano County, joint with the Kinney-Coastal Oil Co., is drilling at 420 feet. It had a little gas and a scum of oil on the slush pit at 186 feet and at 345-80 feet it went through a sandy shale which indicates that it may be passing out of the Tertiary, though this is not yet certain.

In Montrose County, on the western slope, the Uncompahgre Oil & Gas Co.'s No. 1 Colorado Title & Trust, Section 27-50n-10, near Olathe, cut an artesian water sand at 535 feet which was shut off with the 15½-inch casing. It is drilling with a 12½-inch bit at 630 feet in a very hard sand which is showing some colors.

In La Plata County, the Royal Producers & Royalty Co's No. 1, Section 7-33-12, on the Red Mesa Terrace, is maving in material for a test.

In Archuleta County, the Juanita Oil Co.'s No. 1 Harvey, Section 4-32n-3w, Juanita structure, is drilling below 500 feet.

Wyoming

The outstanding features in Wyoming operations continue to be the Texas Production Co.'s discovery on the Alkali Butte Dome in Fremont County and the Producers & Refiners Corp.'s big gas well on the Muskrat Dome in the same county. The Texas company's discovery gives every favorable indication of opening a new light oil pool, while the Producers & Refiners is believed to have opened up another immense gas reserve with encouraging possibilities for oil at lower depths. The Texas company's discovery is in its No. 1, SW SE NW, Section 1-33-95, on the Alkali Butte Dome, 90 miles due west of Casper and 30 miles east of Lander. It has been flowing from shale at 3,952-4,000 feet and making as high as 600 bbls. a day. The tankage is all full and the oil is being trucked to Riverton and shipped in tank cars to the company's refinery at Casper until such time as it can be determined what pipe line facilities will be required. Drilling has been resumed and the hole is now bottomed at 4,079 feet, but has not yet found any sand though it is believed to be very close to one of the Dakota series. It is flowing 200 bbls. a day while drilling. The Texas company has increased its holdings on the structure by the acquisition of 1,200 acres on the east and south. The structure has been drilled twice in the past by the Midwest Refining Co. and the Inland Oil & Refining Co, the latter a former subsidiary of the Continental Oil Co. At that time the Wall Creek sands of Salt Creek were the objectives as the Dakota sands then were not considered worth while drilling. The Inland well, which was in the same quarter as the discovery, had a large flow of gas in the first Wall Creek followed by water and was abandoned without testing the lower horizons. The Producers & Refiners' discovery is in NE SE SE, Section 34-34-92, about 18 miles east of the Alkali Butte Dome. This well had a show for 8,000,000 feet of gas at a total depth of 4,340 feet followed by a delay in drilling caused by the loss of four strings of tools in the hole. The well apparently drilled itself in and the gas pressure blew the tools and the 3-inch drill pipe out of the hole and wrecked the derrick. The flow of gas was estimated at around 50,000,000 feet and the pressure appears to be very heavy as the bluish vapor rising 200 feet in the air can be seen 4 miles away and the roar heard within a radius of 10 miles. It has been blowing for 12 days while a master gate was being shipped in. This is being installed and it is expected that it will be shut in within a few days. The gas is supposed to be coming from the first Wall Creek sand which leaves the Dakotas yet to be tested.

May Stimulate Drilling

These two discoveries are expected to result in considerable activity in Fremont County. The Pilot Butte structure, northwest of Riverton, which has produced from the Wall Creek for a number of years and which is approximately 1,000 feet shallower, may be one of the structures tested to the deep horizons at an early date. The Kinney-Coastal Oil Co. and the Argo Oil Co. are reported to have reached an agreement whereby the former will drill a deep test, the agreement being contingent upon the securing of sufficient acreage other than that held by the two companies to warrant the expense. The Big Sand Draw gas field in Fremont County, principally controlled by the Producers & Refiners Corp., again is the scene of some drilling, the Producers & Refiners having resumed work on its No. 7, C SE NW, Section 14-32-95. This well was shut down at 2,765 feet last winter and has been idle ever since. The company now is moving in a diamond drill in an effort to complete it. This field has an enormous potential gas production in the Frontier and is piping gas to Casper and several attempts have been made in recent years to get through the gas horizon and test the Dakota for oil.

Efforts of operators in the Oregon Basin Field in Park County to reach an agreement for curtailing operations in the field and prorating runs have so far not been successful. At a conference of 19 operators in Casper the past week a committee was appointed to visit the field, canvass the situation and report back its recommendations. This committee is composed of John McFayden, of the Ohio Oil Co.; F. W. Freeman, of the Texas Production Co.; Charles E. Orchard; and W. H. Ferguson, of the Continental Oil Co.

Several completions in Oregon Basin are reported this week. The Cody Petroleum Co.'s No. 4 Klindt, NE cor., Section 7-51-100, made 1,500 bbls. the first 24 hours from the Embar at 3,333-3,459 feet. Charles E. Orchard's No. 2 Rue, NW SW SW, Section 28-51-100, was completed in the Embar at 3,568-3,881 feet and made 240 bbls. the first 24 hours. The Lenco Petroleum Co.'s No. 1 Rousseau, SW NE NW, Section 33-51-100, was completed at 3,714 feet and made 150 bbls. initial. This well was drilled deeper from 3,695 feet. The pay was found at 3,653-3,714 feet. Other operations include the following: The Ohio Oil Co.'s No. 1 Sonners, Account 3, SE Section 8-51-100, has rig completed and is ready to spud. Same company's No. 5 Sonners, NE NE, Section 8-51-100, is cleaning out mud in the Tensleep at 3,700 feet. It topped the Embar at

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An Invitation

The Stockholders of the Exchange National Bank and Exchange Trust Company of Tulsa, Oklahoma, announce the opening of their new banking home, occupying the block between Third and Fourth Streets on Boston Avenue, on October twentieth 1928, from 7 o'clock P.M. until 10 o'clock P.M.

—— You are cordially invited to be present. ——

Visitors to the International Petroleum Exposition are especially invited to inspect these financial institutions at any time during their stay in Tulsa.

Harry S. Rogers
PRESIDENT

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Plans to Avoid Cratering of Wells

Committee Appointed in Richland Parish Gas Field to Recommend Precautions. Daily Inspection of Every Well

By D. H. Bancroft
Staff Correspondent, Louisiana-Arkansas

SHREVEPORT, La., Oct. 8.—Shortly after the Natural Gas & Fuel Co.'s No. 1-A Thompson, Section 21-16-6, of the Richland Parish gas field blew out and cratered early in February this year, Richland operators met on call of W. F. Chisholm of the State Department of Conservation and adopted certain recommendations forwarded by him for the protection of the field and to guard against repetitions of the blow out. These rules were practiced by the operators but last month a well, completed a month before, suddenly blew out and created the field's second crater which, in some respects, is a greater problem than the first. W. C. Feazel completed No. 1 Pardue in Section 6-15-6, on August 1 as a 47,000,000-foot well at 2,450 feet and shut it in, as most Richland wells are. Three weeks ago it started bubbling gas through numerous sand boils within a radius of 100 yards and a day or two later had cratered. In contrast with the Natural Gas & Fuel Co. well, and probably due to soil conditions, instead of spreading out, the crater deepened and is now probably 50 or 60 feet deep.

Committee Appointed

When other repair measures failed another conference of Richland operators was called by the department for an exchange of ideas as to how to kill it and also for the further protection of the field against another repetition of such accidents which they thought they had accomplished at the previous conference. At this meeting a committee composed of B. M. Nowery, of the Palmer Corp., as chairman, Herbert Otis of the Arkansas Natural Gas Corp., Sam Hunter, Fred Stovall of the Stovall Drilling Co., Whiteman of the Magnolia Gas Co., and W. C. Feazell, owner of the well, was appointed to consider and adopt such of the suggestions for killing the crater as they saw fit. The plan most favored is to make up two or three joints of 20-inch pipe fitted with necessary connection and drive it down over the 12-inch surface casing in the well, using either a crane or an "A" frame, and then snub a string of pipe, probably 6 or 4-inch, into the hole and cement down to where the 6-inch has been cut, around 800 feet.

As to further precaution for the protection of the field the idea submitted and adopted was daily inspection of every well in the field with pressure reports to the department for which the department will furnish uniform report forms. Mudding off of all idle wells was discussed but because of the numerous difficulties arising from such a program the idea was not entertained. On the other hand, to provide means for immediate action in the case of defective wells that may develop in the future a committee was appointed to consider tubing all wells in the field, it being considered that all wells so equipped could be more quickly controlled or killed in case of accident. This is a matter of particular importance to Richland operators because of the fact that all Richland wells make a large amount of sand when opened up and allowed to flow even to the permissible fraction of their open flow capacity.

Best Completion of Week

In the way of completions, Palmer Corp.'s No. 3 Tillman in Section 28-21-10, Cotton Valley district of Webster Parish, was in some respects, the best of the week. Under present conditions a gas well in Cotton Valley is a much more profitable proposition than a small oil well. Cotton Valley's deep gas is exceedingly rich in gasoline, running around 1,800 gallons to the 1,000,000 feet. Natural gasoline in this market is bringing around 9½ cents per gallon and, because of competition, gas at the well is hovering around 5 cents per 1,000 feet. So, with their gas worth around 12 cents per 1,000 feet, operators are finding it more profitable to complete a small gas well than to take chances of oil at a deeper level — which probably accounts for the failure of Cotton Valley to appear as a new deep level producing district. The Palmer Corp. will realize handsomely on its No. 3 Tillman, completed at 4,653 feet and gauging 37,080,000 feet of gas. The average deep sand well in Cotton Valley costs about $50,000 and on such a well as the Palmer's the daily income between gasoline and gas would be around $5,500. In other words such a well pays for itself in half a month. But all Cotton Valley deep sand gassers are not such wells.

There was but one completion in Champagnolle, Magnolia Petroleum Co.'s No. 1 G. C. Dumas, in Section 11-17-14, which started off pumping 36 bbls. from 4 feet of sand, total depth 3,229 feet. In Jhonson County, Arkansas Natural Gas Corp. completed another in its series of successful gas tests with No. 1 Kerwin, in Section 16-10-24, making 4,134,000 feet of gas from a total depth of 3,361 feet.

Gas Completions

Louisiana districts had little more to show than did Arkansas, Richland Operating Co., a Moody Seagraves subsidiary, completing No. 1 Rhymes in Section 24-16-5, with an initial open flow of 34,000,000 feet at 1,075 pounds and the Natural Gas Producing Co. completing No. 11 Tensas Delta Land Co. in Section 22-22-4, Morehouse Parish, with an initial of 3,000,000 feet at 2,216 feet. Magnolia Petroleum Co. tested 3,000,000 feet of gas in No. 2 Munn, Section 20-23-9, Shongaloo district of Webster Parish, at 2,697 feet and shut down for orders and its No. 1 Oakes-Roseberry in the same section is in the same situation after testing 1,000,000 feet at 2,749 feet.

In Champagnolle only two wells were of interest. Ohio Oil Co. tested 39 joints of oil and 2 of mud from sand at 3,035-44 feet after setting 6⅝-inch casing on top in No. 1 Nash, Section 6-17-13, and Rovenger Oil Corp.'s No. 4-A Perdue, Section 10-17-14, is waiting on standard rig with 1,200 feet of fluid in the hole from 24 feet of broken sand, total depth 3,253 feet after swabbing failed to make it flow.

Daily Average Runs

An increase of 230 bbls. in Champagnolle's daily average runs held the total shipments for the division to almost a balance, the difference being on the minus side to the extent of 50 bbls., compared with last week. Daily average runs for the several pools were:

Louisiana

	Bbls.
Caddo, light	9,255
Caddo, heavy	3,030
Homer	4,210
Haynesville	5,800
DeSoto-Red River	3,880
Elm Grove	545
Bellevue	765
Cotton Valley, light	680
Cotton Valley, heavy	3,570
Urania	6,610
Pleasant Hill	555
Total	38,900

Arkansas

El Dorado	5,230
Smackover, light	7,280
Smackover, heavy	55,375
Stephens	1,025
Nevada County	1,200
Lisbon	1,815
Champagnolle	12,215
Bradley	100
Total	84,240
Both states	123,140
Last week	123,190
Decrease	50

GAS-PRODUCING AREA OF RICHLAND PARISH IS EXTENDED BY WILDCAT

By D. H. Bancroft

SHREVEPORT, La., Oct. 8.—Extension of producing territory in the Richland Parish gas area a mile east of the nearest well by Richland Operating Co.'s (Moody & Seagraves) No. 1 Godfrey in SE cor. NW, Section 25-16-6, is the first development of that sort in this field for months. The well was completed October 1 with an estimated 55,000,000 feet of gas, total depth 2,455 feet. While there are producing wells in the proven area farther south of this one, the nearest on the west is Stovall Drilling Co.'s No. 1 Dunning in NW cor. NW, Section 26-16-6, completed early this year with 25,000,000 feet initial from 2,450 feet. There are also producers several miles to the north.

All other wildcat completions in the division in the last week were failures, two of them being abandoned without drilling. Roxana Petroleum Co. abandoned derrick for No. 1 Doss in SE cor. NE NW, Section 16-17-14, a quarter of a mile west and south of the Lion and Root gas wells of recent completion. Mellor and others similarly abandoned location for No. 1 Peters in Section 28-17-14, half a mile south of Root Refineries' No. 1 Jerry, a small pumper in Section 21. Rhodes and others' No. 1 Union Sawmill in Section 14-19-11, Union County, 2 miles northwest of Huttig in the extreme southeastern corner of the county was abandoned as a salt water hole at 3,210 feet where it had been standing temporarily abandoned since May 24.

H. L. Hunt also gave up trying to make a well of No. 1 Dykes in Section 21-18-12, 3 miles north of Strong in the same part of the county. In 1926-27 he drilled to 2,575 feet and got 25 to 50 bbls. of 13.5 gravity oil with 2,500 bbls. of salt water, cased it off and went on to 2,970 feet where he tested salt water and abandoned it with all casing left in the hole. After the Champagnolle deep sand discovery he went back to it again in May of this year, got another water flow at 3,203 feet, killed it and went on drilling. A third water flow developed at 3,303 feet was mudded off and the hole drilled to 3,445 feet where it is abandoned. The remaining wildcat completion was Warren & Carruthers' No. 1 Berry in Section 26-15-15, Caddo Parish, which tested salt water and was temporarily abandoned at 1,260 feet last month. Location is just north of the Caddo-DeSoto line near Preston.

Wildcat Locations Staked

Locations for three new wildcats were staked the last week, however, one in Bossier Parish and two in Caddo. Gross and others operating as the Big Ben Oil Co. made location for No. 1 Stewart, about 300 feet south of William Gross and others' No. 1 Stewart, abandoned a short while ago as a junked hole. Both are in Section 15-18-12. Haynes Brothers are drilling on No. 4 Louisiana Livestock Co. in the SE cor., Section 8-19-16, a little over a mile south of production in the old Mooringsport district of the Caddo fields. The same operators, who drilled the deep Trinity discovery well in Pine Island a year ago last July, also drilled a deep test in the same locality where they are just started, No. 1 Louisiana Livestock in Section 18-19-16. Drilled originally to around 2,600 feet, it was deepened to 3,712 feet and had one or two shows but was abandoned as a salt water test February 15, 1927. While they are busy on this wildcat, D. M. Lide has rig up for No. 1 McCrary in Section 23-19-16.

Palmer Corp.'s East Carroll well, No.

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NORTH LOUISIANA

Bossier Parish

Elm Grove and Sligo—Arkansas Natural Gas Corp. is drilling No. 6-A Van Hoose, Section 31-16-11, at 700 feet with 10-inch cemented at 199 feet, and has rig up for No. 1-A Van Hoose, 795 feet north and 580 feet east SW cor. SE NW of the same section. Palmer Corp. made location 1,620 feet north and 480 feet west SE cor. Section 26-16-12, for No. 11 Caplis. C. L. Williams set 80 feet of 10-inch, 600 feet of 6-inch, and is drilling plug on No. 1 McDade, Section 32-19-11.

Caddo Parish

Hosston District—Bayou State Oil Co. set 6-inch, drilled plug and is waiting on standard rig to pump No. 33 Hoss, Section 24-22-15, total depth 1,050 feet.

Oil City—J. W. Burton set 10-inch at 60 feet and is drilling at 600 feet on No. 1 Church in Section 1-20-16. L. M. Emlet's No. 9 Glassell, Section 10-20-15, is reaming at 2,050 feet. C. G. Gibbins cemented 8-inch at 1,870 feet on No. 1 Gibbins, Section 15-21-16, total depth 1,875 feet. Magnolia Petroleum Co.'s No. 3 Levee Board, Section 7-20-15, is drilling lime at 2,974 feet. H. M. Mattson is drilling No. 1 Poisseau, Section 34-21-16, at 2,285 feet. Shreveport Oil Corp.'s No. 1 Edson, Section 32-21-15, set 10-inch at 100 feet and 6-inch at 1,320 feet.

Pine Island—Dixie Oil Co.'s No. 91 Dillon, Section 14-21-15, is drilling lime with streaks of shale at 3,383 feet; No. 92 Dillon, in Section 13-21-15, is drilling red sand again at 5,853 feet. Magnolia Petroleum Co. set 201 feet of 13⅜-inch casing and is drilling at 250 feet on No. 18 Robertshaw, a new well, 165 feet south and 500 feet east NW cor. Section 24-21-15, and has rig up for No. 23 Robertshaw in Section 23-21-15.

Claiborne Parish

Haynesville—Smitherman & McDonald have set 200 feet of 12½-inch pipe for surface string on No. 1 Miller, Section 17-23-8, a deep test scheduled for 4,600 feet.

Grant Parish

Little Creek—Bailey & Bevil are drilling No. 3 Swope, Section 17-9-1e, at 1,450 feet.

LaSalle Parish

Urania—Randall and others' No. 1 Urania, Section 12-10-1e, is coring at 490 feet.

Monroe District

Morehouse Parish—Southern Carbon Co.'s No. 6 Tensas, Section 10-20-4, set 1½-inch at 188 feet and 8-inch at 858 feet. United Carbon Co.'s No. 1 Bastrop Pulp & Paper Co., in Section 18-20-6, is shut down at 3,151 feet.

Ouachita Parish—G. E. Jordan's No. 1 Wall, Section 12-18-3, is in gumbo at 2,696 feet. Magnolia Petroleum Co. has

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Gas Area of Refugio Field Widened

Houston Gulf Gas Co.'s No. 3 O'Brien Proves 3,700-Foot Sand Half Mile to the North. Deepest Horizon Now Most Extensive

By B. D. Stevenson
Staff Correspondent, Southwest Texas Fields

SAN ANTONIO, Tex., Oct. 8.—Several spots in Southwest Texas drew attention the past week, notably a half mile extension for the 3,700-foot sand in the Refugio Field when the Houston Gulf Gas Co. brought in its No. 3 O'Brien at approximately 3,665 feet on a drill stem test gauging 1,200 pounds rock pressure and a good volume of gas. Casing has been set. The well extends that sand in the field a half mile to the north. This, the deepest sand in the field, is now proven for an area of 3¾ miles north and south and is the most extensive sand in the field, the shallower sands being confined to a more limited area. Larsen-Walsh's No. 1 Holmes Heard which is an 80,000,000-foot gas well at 3,652 feet is the nearest producer and the new well is due north of it 2,000 feet. There are now four wells completed to that sand in the north end of the field and three in the south have proven the sand out with nearly 3 miles between them that is producing gas from a sand at about 3,300 feet.

In the south end of the field Houston Oil Co. is down around 3,800 feet or deeper in its No. 1 Wilson Heard, the north offset to the Texas Gas Co.'s No. 1 Claude Heard, the latter being the discovery well in the 3,700-foot sand that is making oil and gas. Saxet company's No. 4 Claude Heard, the east offset to the Texas Gas Co.'s discovery well, is still a gas well spraying oil but with the prospect of ultimately making an oil well improving a little. An interesting well in that field is the George E. Smith's No. 1 Rose Rogers. This was originally William R. Morgan's No. 2 Rose Rogers and drilled to 2,510 feet where it was a dry hole. It is off to the west of the center of the field on the west side of Blanco Creek and in the point where the creek makes a sharp bend towards the east.

Agua Dulce Field

In Nueces County the new Agua Dulce Field is seeing the first activity since Grimm & Morris brought in their discovery well, No. 1 Garrett, in the NE cor. S half of Section 34, of the Benton's Pasture Survey. Moody-Seagraves interests which are chief owners of the Houston Gulf Gas Co., bought a half interest in the project and Grimm & Morris are to drill four additional wells on the block. They are rigging up on the first of the four in Section 87 of the George H. Paul Subdivision, a little less than a mile northeast, Rosenbloom & Grimm are rigging up on Block 6 of the Agua Dulce tracts, over a mile northwest of the well and Davis, Horn & Maddox are rigging up on Lot 13 of the Mantor & Briggs Survey, about 4 miles north of the discovery well. Other tests in that area are locations only thus far.

Joe Bruner Field

In the Joe Bruner Field in Caldwell County, Sun Oil Co. got only a small well in the Austin formation at a total depth of 2,554 feet and has started to drill to the Edwards lime. This will therefore be the first test in the territory where major companies have spent around $500,000 on leases on the theory of an Edwards lime field. A map of this territory showing lease ownership was published in The Oil and Gas Journal, September 13, 1928, page 54, and the Sun well is there shown as a location. There are seven wells in that field at this time producing from the Austin formation at a little less than 2,600 feet and several tests drilling around the edges.

Luling Oil & Gas Co. shot its No. 3 Carter, over 2 miles to the northeast, with a fairly good initial showing. It will not develop what it will do until after it has been cleaned out and put on the pump. T. C. Hadley's No. 1 Tiller is waiting the results of the shot in the Luling Oil & Gas Co.'s No. 3 Carter before deciding whether or not to shoot his No. 1 Tiller a second time with a heavier shot.

Laredo District

A big increase is noticed in the flow of the wells of the Houston Oil Co. in the Magnolia-Cole Field in Webb County as a result of placing the wells on air. A one-day gauge last week was 1,164 bbls. Completions added little to the Laredo district the past week there being nothing unexpected. Rycade Oil Corp.'s No. 1 Yeager-Strohman at the south end of the Albercas Pool in southeastern Webb County, reported last week as sure to make a well, is flowing by heads 155 bbls. of oil a day from sand at 2,161-67 feet, the total depth being 2,167 feet. Sun Oil Co.'s No. 4-A Yeager-Strohman is estimated at 100 bbls. in sand at 2,-161-69 feet. It is an east offset to the Rycade well. The Sun company has set casing on its No. 5-A Yeager Strohman and No. 6-A Yeager-Strohman, and is down 600 feet on the No. 3-B which is a north offset to the Rycade's No. 1.

In the Magnolia-Cole Pool Houston Oil Co. completed its No. 13-D Benavides, flowing 120 bbls. of oil and No. 14-D Benavides, pumping 108 bbls.

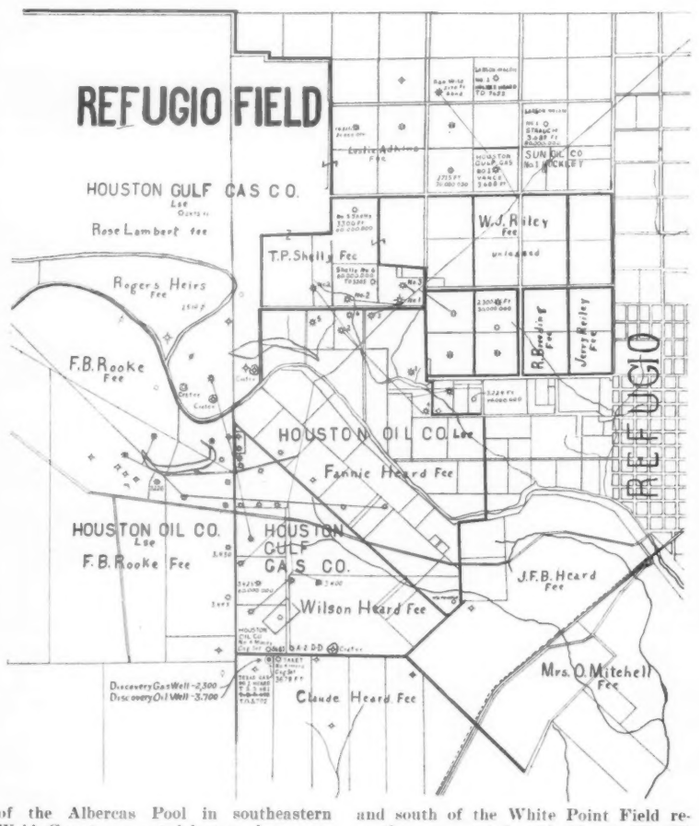
Jennings Field

In the new oil field discovered by O. W. Killam with his No. 1 Cuellar at 1,465 feet in Zapata County, east of the old Jennings gas field, his No. 3 is flowing 150 bbls. which is about the same as No. 1 did when it first came in. No. 2 was not quite so good. The three wells are now making right at 300 bbls.

The excitement over the Callaghan Pasture shallow discovery at around 600 feet in the northern part of Webb County a month or more ago was intense but short lived. The first well was plugged and abandoned. No. 2 is a fresh water well at 1,180 feet. No. 1 was drilled in the first place for water for ranch purposes and spoiled by oil.

White Point Field

The Saxet company's No. 16 Rachel in the White Point Field in San Patricio County started running wild last week at about 2,300 feet. The well was standing and had not been completed, but was cased. It is believed it will be capped without much trouble. The Saxet company extended the Saxet Field in Nueces County on the south side of Nueces Bay and south of the White Point Field recently as reported with No. 1 W. W. Walton and got a 30,000,000-foot gas well at 2,337 feet. Location has been made for No. 1 Weil Brothers which is an offset to No. 1 Walton. The wells extend the Saxet Field about three-quarters of a mile to the southwest.



COMPLETIONS

Bexar County

Schimmel Production Corp.'s No. 2 Tick, Somerset Field, completed at 1,345 feet, 9 bbls.; No. 3 Tick, completed at 1,345 feet, 11 bbls.; No. 4 Tick, completed at 1,345 feet, 12 bbls.; No. 5 Tick, completed at 1,272 feet, 10 bbls.; No. 6 Tick, completed at 1,345 feet, 8 bbls.; No. 7 Tick, completed at 1,380 feet, 10 bbls.; No. 8 Tick, completed at 1,380 feet, 10 bbls.; No. 9 Tick, completed at 1,380 feet, 8 bbls.; No. 10 Tick, completed at 1,380 feet, 5 bbls.; No. 11 Tick, completed at 1,370 feet, 10 bbls.; No. 12 Tick, completed at 1,380 feet, 10 bbls.; No. 13 Tick, completed at 1,350 feet, 8 bbls; No. 14 Tick, completed at 1,380 feet, 8 bbls.; No. 25 Koehler, completed at 1,430 feet, 8 bbls.; No. 26 Koehler, completed at 1,430 feet, 10 bbls.; No. 27 Koehler, completed at 1,430 feet, 6 bbls.; No. 28 Koehler, completed at 1,430 feet, 5 bbls.; No. 23 Koehler, completed at 1,345 feet, 11 bbls.

Caldwell County

The Texas Company's No. 3 O. T. Moore, J. Gilbert Survey, Dale Field, has been completed at 2,287 feet, a 45-bbl. well.

Fred Adams and others' No. 3 Moore, Dale Field, completed at 2,283 feet, is good for 100 bbls.

Magnolia Petroleum Co.'s No. 21 R. Rios, John Henry Survey, Luling Field, has been completed at 2,340 feet for 10 bbls.

Golden West Oil Co.'s No. 3 Wilson, A. Floyd Survey, Joe Bruner Field, at 2,505 feet, is pumping about 30 bbls.

Refugio County

Houston Oil Co.'s No. 8 Rook, at 3,-365 feet has been completed as a gas well with 1,460 pounds rock pressure.

Webb County

Houston Oil Co.'s No. 14-D Benavides, Survey 753, Block 13, Magnolia-Cole Field, completed at 2,341 feet, is pumping 108 bbls.; No. 13-D Benavides, same survey, Block 12, and same field at 2,343 feet, is flowing 120 bbls.

Sun Oil Co.'s No. 4-A Yeager-Strohman, Share 5, Albercas Field, has been completed at 2,169 feet, a 100-bbl. well.

Rycade Oil Corp.'s No. 1 Yeager-Strohman, Share 5, Albercas Field, completed at 2,167 feet, is flowing 155 bbls.

Zapata County

O. W. Killam's No. 3 Cuellar, Jennings gas field, Cerrito Blanco grant at 1,465 feet, is flowing 150 bbls.

Medina County

Southern Gas Utilities' No. 21 Adams, Durst Survey No. 13, Adams gas field, has been completed at 916 feet, a 2,700,-000-foot gas well with 375 pounds rock pressure.

ABANDONED TESTS

Bexar County

Houston Oil Co.'s No. 1 Constantine N. Georgiadis, Domingo Losoya grant at 2,441 feet, is dry and abandoned 55 feet in the Edwards lime with sulphur water.

Caldwell County

Louis P. Schawe's No. — Schawe, Thomas Maxwell Survey, at 1,180 feet is dry and abandoned.

Gonzales County

The Texas Company's No. 1 Bateman, A. Zumwalt Survey, is a water well at 1,000 feet and rig is being moved 200 feet west for another test.

Alexander-Smith-Capps' No. 1 Dora L. Billings, George Guinn Survey, dry and abandoned at 2,815 feet.

Webb County

Callaghan Land & Pastorial Co.'s No. 2 Callaghan, Survey 440, at 1,180 feet is a fresh water well.

NEW LOCATIONS MADE

Caldwell County

T. C. Hadley's No. 2 Wilson, J. Radford Survey, Bruner Field, is drilling at 875 feet.

The Texas Company's No. 4 O. T. Moore, J. Gilbert Survey, Dale Field, is drilling at 2,235 feet.

Magnolia Petroleum Co.'s No. 8 W. Branyon, Nancy Reaville Survey, Luling Field, is rigging up.

Guadalupe County

Magnolia Petroleum Co.'s No. 4 N. J. Carter, H. Cottle Survey, Luling Field.

is location 150 feet to northwest and northeast lines of the tract.

Gonzales County

The Texas Company's No. 2 Bateman, A. Zumwalt Survey, southwest of Ottine, is skidding rig from No. 1 to second shallow formation test on the Bateman farm.

George Sullivan's No. 1 Norwood, Winslow Turner Survey No. 3, located 2,080 feet to northeast lines and 2,410 feet to northwest lines has resumed drilling at 350 feet after shut down to clear tittles.

Duval County

Magnolia Petroleum Co.'s No. 2-A Hahl, Survey 61, Schoolfield-O'Byrne Field, 3,081 feet to east line and 150 feet to south line is rigging up.

Medina County

North & South Oil Co. is surveying for location in Medina County, 8 miles south of D'Hanis.

Holt & Cromwell's No. 1 Mott, Survey 1,267, is location 2,250 feet to east line and 4,182 feet to south line.

Milton & Webster's No. 1 Crabtree, 1 mile west of Hondo, is rigging up.

Refugio County

George E. Smith's No. 2 Rose Rogers, completed some time ago at 1,880 feet, a gas well, is deepening and is drilling at 3,000 feet.

W. L. Pearson's No. 1 Mitchell, several miles northwest of the proven field (previously reported in San Patricio County) is rigging up.

Houston Oil Co.'s No. 10 Rooke, T. Mullen Survey, is location.

Nueces County

Houston Oil Corp.'s No. 1 Talbert, Puentecitas Survey No. 2, Block 5, is location 1,139 feet to north line and 155 feet to west line.

Saxet Oil Co.'s No. 5 Dunn, Saxet Field, is location 750 feet to northeast of southwest lines of Dunn tract and 1,500 feet southwest of the No. 1 Dunn, discovery well of the field drilled six years ago.

Saxet Oil Co.'s No. 4 Weil Brothers, located 1,320 feet south of the No. 1 Walton, completed a gas well extending the field 4,000 feet southwest, has derrick up and is moving in tools.

Travis County

Flynn Brothers' No. 1 St. Edwards University is location.

Webb County

Rycade Oil Co.'s No. 2 Yeager-Strohman, Share 5, Albercas Field, 150 feet to north line and 450 feet to east line, is moving on.

Sun Oil Co.'s No. 3-B Yeager-Strohman, Share 5, Albercas Field, 150 feet to south and east lines, set 10-inch surface casing at 20 feet and is drilling at 600 feet.

Houston Oil Co. (Rycade) No. A-2 Yeager-Strohman, Share 5, Rycade 632-acre tract, Albercas Field, is location 381 feet to north line and 2,248 feet to east line.

Magnolia Petroleum Co.'s No. 11 Valdez, Survey 754, Block 9, Magnolia-Cole Field, 650 feet to west line and 150 feet to south line, is drilling at 650 feet.

Zapata County

W. R. Duke's No. B-1 Martinez, 1,220 feet to northeast lines and 500 feet to northwest lines of Block 17, W. R. Duke Subdivision, Charco Redondo Field, is testing in sand at 976 feet.

South Texas Production Co.'s No. 1 Jennings, Cerrito Blanco grant, Jennings Field, is location 8,890 feet to southwest lines and 8,750 feet to southeast lines.

Killam-Duggan'c No. 3 Cuellar, 3,037 feet to northeast lines and 3,300 feet to northwest lines of Cuellar tract, Cerrito Blanco grant, Jennings Field, is moving on.

Cole Gas Field—Duval

O'Hern & Seacord's No. 6 Benavides, Survey 172, located 3,125 feet to north and west lines, is drilling at 1,100 feet.

Simms Field

Rio Grande Development Co.'s (J. H. Mackay) No. 1 Dinn, Survey 454, located 960 feet to north line and 150 feet to west line, at 1,771-76 feet tested gas and is setting casing.

Humble-Reiter-Foster Pool

Humble Oil & Refining Co.-Reiter-Foster's No. 9 Kohler, Survey 164, located 1,155 feet to west line and 135 feet to south line, at 1,858-60 feet tested gas on drill stem test; No. 10 Kohler, Survey 166, is location 165 feet to east line and 1,605 feet to south line.

Schoolfield & O'Byrne Field

Magnolia Petroleum Co.'s No. B-1 Hahl, Survey 61, located 3,081 feet to east line and 150 feet to south line, is rigged up. Sun Oil Co.'s No. 1 W. P. Norton, Survey 250, located 150 feet to south and east lines, is moving in machinery; No. 1 Henne-Winch, Survey 250, located 150 feet to south and east lines and east offset to discovery well, is moving in machinery. Schoolfield-O'Byrne & Pearson's No. 1 Bowe, Survey 250, Block 21, is location 150 feet to north and east lines; No. 1 Krauter, Survey 250, Block 21, is location 150 feet to north and east lines; No. 1 Krauter, Survey 250, Block 20, is location 150 feet to north and east lines, and has derrick up.

Randado Field—Jim Hogg

Magnolia Petroleum Co.'s No. 40 Merchants State Bank, Survey 415, located 3,160 feet to west line and 200 feet to south line, is location; No. 21 de la Garza, Survey 291, Block 10, located 175 feet to west line and 350 feet to north line, has sand at 1,283 feet and set casing at that depth. T. J. Conway's No. 1 C. Palacious, Survey 232, located 175 feet to north and east lines, is location.

Alworth Field

Alworth-Stevens-Hild's No. 13 M. Garza, Survey 3, Block 9, is location 155 feet to northwest lines (location changed) and 630 feet to northeast lines.

Reiser Field—Webb

Marts & Beavins' No. 1 Johnson, Survey 1,617, Block —, is drilling at 1,042 feet with 10-inch casing set at 20 feet. R. C. Holdsworth's No. 1 Wheatley, Survey 1,569, Block 3, located 847 feet to north line and 305 feet to east line, is fishing at 1,450 feet after testing salt water in sands at 1,442 feet and 1,350 feet.

Mid-Ojuelos Field

Aviator Gas Co.'s No. 1 E. Garcia, Survey 606, Block 11, located 150 feet to south and east lines, Albercas grant, is rigging up.

Albercas Field

O. W. Killiam's No. 24 Bruni, Block 64, located 880 feet to west line and 750 feet to south line, is moving on; No. 25 Bruni, Block 64, has derrick up. Magnolia Petroleum Co.'s No. 10 Yeager-Strohman, Share 5, located 571 feet to south line and 200 feet to east line (location changed), is rigging up; No. 11 Yeager-Strohman, Share 5, is making location; No. 12 Yeager-Strohman, Share 5, located 992 feet to south line and 200 feet to east line, is rigging up. Rycade Oil Corp.'s No. 1 Yeager-Strohman, Share 5, located 150 feet to north and east lines of lease, at 2,161-67 feet has oil standing 1,800 feet in oil and still rising. Sun Oil Co.'s No. A-4 Yeager-Strohman, Share 5, located 2,878 feet to north line and 150 feet to west line, has sand at 2,161-67 feet and set casing at 2,157 feet; No. A-5 Yeager-Strohman, Share 5, located 1,393 feet to north line and 200 feet to west line, has set 20 feet of 10-inch casing; No. A-6 Yeager-Strohman, Share 5, located 972 feet to north line and 200 feet to west line, is rigging up. William R. Jewell's No. 3 Bruni, Block 56, located 700 feet to east line and 165 feet to north line, is drilling at 1,100 feet.

Aviator Field

G. C. Salley's No. 1 Puig, Carter-Pinkton tract of Puig ranch, Albercas grant, 200 feet to west line and 150 feet to south line, is rigging up. Suladie & Mimms' No. 1 Puig, 450 feet to east line and 155 feet to north line of Puig (Kirkpatrick) 160 acres in Albercas grant, is location.

Andrews Field

Gleanson Oil Co.'s No. 2 Benavides, Survey 11, Block 11, located 300 feet to northwest lines and 250 feet to northeast lines, is standing at 1,000 feet due to water shortage.

Carolina-Texas Field

Usher Carson's No. D-5 Webster, NW SE Survey 684, located 150 feet to north and west lines, at 2,136-42 feet tested some oil, gas and salt water and is drilling at 2,150 feet. C. R. Miller's No. 1 de la Garza, Survey 48, Block 47, located 150 feet to north and east lines, is drilling at 625 feet.

Magnolia—Cole Field

Cole Petroleum Co.'s No. 65 Benavides, Survey 412, Block 4, located 1,060 feet to west line and 160 feet to north line, has derrick up. Houston Oil Co.'s No. D-4 Benavides, Survey 753, Block 13, is location 160 feet to south line and 822 feet to east line; No. D-5 Benavides, Survey 753, Block 13, is location 160 feet to south and east lines; No. D-13 Benavides, Survey 753, Block 12, located 334 feet to south line and 150 feet to east line, at 2,343 feet is running liner; No. D-14 Benavides, Survey 753, Block 13, located 662 feet to south line andt 160 feet to west line, at 2,330-33 feet has sand and has set casing; No. D-15 Benavides, Survey 753, Block 12, is location 662 feet to south lines and 150 feet to west lines; No. D-16 Benavides, Survey 753, Block 12, is location 160 feet to north and west lines; No. D-17 Benavides, Survey 753, Block 5, is location 160 feet to south and west lines; No. D-18 Benavides, Survey 753, Block 6, is location 160 feet to south and east lines. Houston Oil Co. and others' No. F-1 Benavides, Survey 753, Block 14, is location 160 feet to south and east lines. Magnolia Petroleum Co.'s No. 10 Valdez, Survey 754, Block 16, is location 150 feet to south line and 1,150 feet to west line.

Jennings Field—Zapata

O. W. Killiam's No. 3 Cuellar, location northwest of No. 1, the discovery well, is drilling at 1,320 feet.

Somerset Field—Atascosa

Witherspoon Oil Co.'s No. 1 Pue is drilling below 800 feet.

Roxana-Larremore Field—Caldwell

Roxana Petroleum Corp.'s No. A-4 Jolly, Cornelius Crenshaw Survey, 450 feet to north line and 150 feet to east line, is testing at 1,314 feet; No. 5 A. W. Jolly, C. Crenshaw Survey, 300 feet southeast of No. 3, is location; No. 1 Wilms, Cornelius Crenshaw Survey, is location 150 feet to north and west lines.

Luling Field

Magnolia Petroleum Co.'s No. B-1 A. J. Brown estate, John Henry Survey, 418 feet to northwest lines and 32 feet to southwest lines, is rigging up; No. 4 McKinney, 300 feet northwest of No. 1, is drilling at 2,090 feet; No. 22 R. Rios, John Henry Survey, is drilling at 1,950 feet.

Joe Bruner Field

Pat Armstrong's No. 1 E. Martin, A. Floyd Survey, is drilling at 1,800 feet. Carl Brothers-Suttle's No. 1 C. W. Malone, A. Floyd Survey, 150 feet to northwest and northeast lines, set casing at 2,174 feet, total depth 2,327 feet. De-Tex Oil Co.'s No. 1 M. August, A. Floyd Survey, 150 feet to northeast and southeast lines of tract, is at 2,550 feet bailing and swabbing a little oil. Golden West Oil Co.'s No. 1 Cook, A. Floyd Survey, 480 feet to northeast lines and 170 feet to northwest lines, is building derrick and moving in machinery. T. C. Hadley's No. 1 Tiller, Gerren Hinds Survey, about one-fourth mile west of his No. 1 Heise, at 2,619 feet is standing 1,200 feet in oil. M. S. Holladay's No. 1 Bouldin, 4 miles northeast of Luling, is drilling at 2,670 feet in chalk. Larson-Walsh's No. 1 Fred Watson, Solomon Seal Survey, 150 feet to northeast and southeast lines, has been spudded in. Luling Oil & Gas Co.'s No. 3 Carter, Gerren Hinds Survey, 300 feet north of No. 1, at 2,600 feet approximate depth expects to shoot 250 feet of formation with 330 quarts. Lu-Tex Oil, Inc., No. 1 Wilson, A. Floyd Survey, 150 feet to northwest and northeast lines of lease, has set casing at 2,290 feet. Plum Creek Oil Co.'s (formerly Radiant Oil Co.) No. 1 E. L. Mayton, Hector McNeil Survey, in center of survey, at 240 feet has set surface casing. Sun Oil Co.'s No. 1 R. W. Malone, A. Floyd Survey, at 2,554 feet is small well after second shot and is going on the pump.

Lockhart Area

The Texas Company's No. B-1 F. M. Branyon, John R. Miller Survey, 150

(Continued on Page 138)

MAY OPEN NEW SERPENTINE POOL IN NORTHERN CALDWELL COUNTY

By B. D. Stevenson

SAN ANTONIO, Tex., Oct. 8.—Cranfill & Reynolds, drilling 50-50 on a Sun Oil Co. lease in the town of Lytton Springs in northern Caldwell County, late last week had 11 feet of Serpentine carrying oil and it looked like there was a possibility another Serpentine formation pool might be opened. The location is 1½ miles northwest of the original Lytton Springs Pool discovered by Lefevre & Storey in March, 1925. Depth of the top of the formation in the Cranfill & Reynolds well on the L. A. Cardwell town tract in Lytton Springs was 1,495 feet and to the top of the pay in Lefevre & Storey's No. 1 Brewer, 1,252 feet. Dale Field, another Serpentine formation field, is about 5 miles southeast of the Lytton Springs Pool and is producing from a little below 2,000 feet. The only other Serpentine field in the United States is the old field at Thrall in Williamson County. Eleven feet of Serpentine is nearly enough to insure a well, especially with as good a showing of oil as this well was making last Thursday. Casing was being hauled out to the well that day and would be set and a test probably be ready for the first of this week. The town of Lytton Springs covers about a quarter section of land in the Pablo Martinez Survey in the northern part of Caldwell County location at about the center of the northeast line of the survey.

Some weeks before the activity in the territory running northeast and southwest through the Joe Bruner Field it was told in The Oil and Gas Journal that there was to be a most active play in that territory on the idea of another Edwards lime field laying below the Austin chalk production. The height of the play is now on there and big companies spent over $500,000 for acreage in that area. There is also to be a play down through Guadalupe County on an extension of the old Luling Pool. Some wildcatting was done in past years in that area but discoveries have been made that indicate there will be another campaign of drilling in that territory and some wells are about to be started.

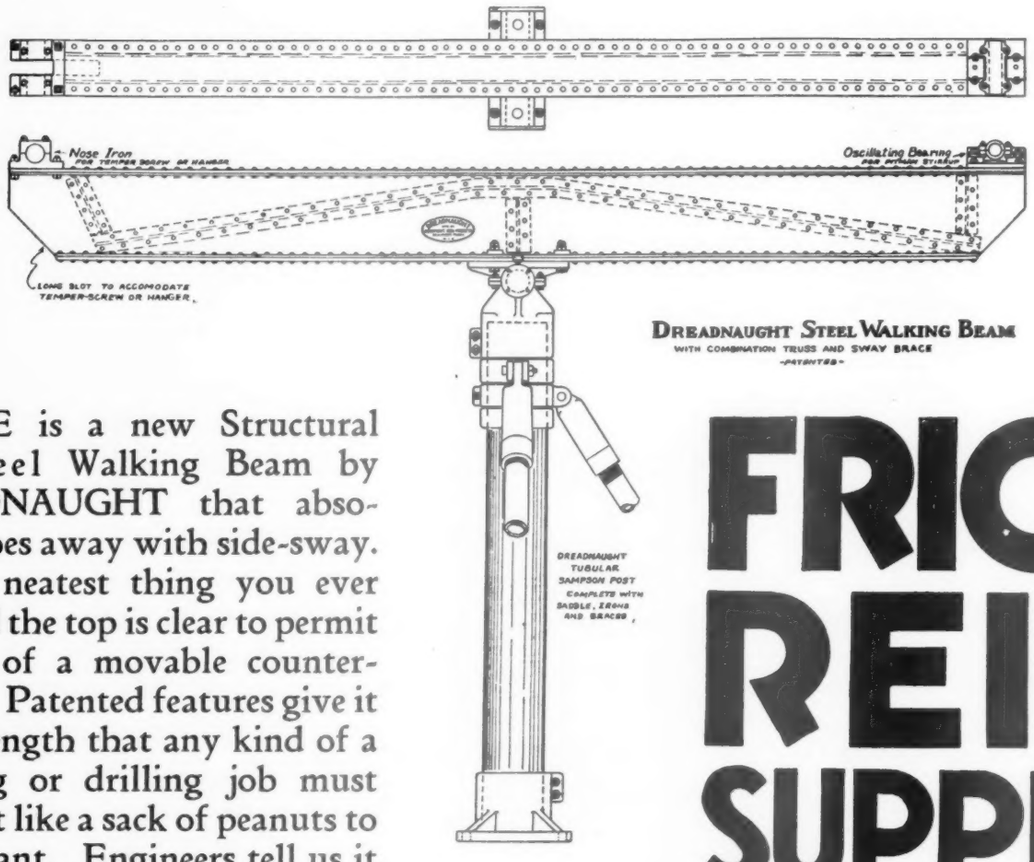
Medina County

There is a little increase in wildcatting in Medina County. United North & South Development Co. is surveying for its location a few miles south of D'Hanis in the western part of the county where it proposes to make a Trinity sand test which will be deep. The two wildcats north of the Southern Pacific are both standing. The California-Medina No. 1 Rothe has milled out the bailer that was stuck in the hole and is figuring on changing to a rotary rig. The Switzer well tried to cement casing but failed due to not being able to get circulation and is shut down waiting for a smaller string of casing. Pat Armstrong and associates are arranging to go back into the old Long well north of Hondo, standing at 705 feet and will deepen it, and Milton & Webster are rigging up 1 mile west of Hondo and will make a deep test.

Oil has been "hit" again at shallow depth in Bexar County. Eight miles southwest of San Antonio on the Somerset Road a well being drilled for water on a farm got quite a lot of oil at 1,150 feet, probably enough to make a small well. On the Paul Dobrowolski farm, 8 miles southeast of the city wheren an 8-bbl. well was developed recently, arrangements have been made to put down 10 wells and develop the pool and in the

(Continued on Page 138)

Sway-Proof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California Situation Looks Brighter

Committee Named to Work Out Santa Fe Springs Conservation Program. Good Demand for Light Oil. Prices Stabilized

By L. P. Stockman
Staff Correspondent, California Fields

LOS ANGELES, Calif., Oct. 6.—The proposed gas conservation program involving the Santa Fe Springs Field is a step nearer consummation, a result of a general meeting held by Santa Fe Springs' operators under the auspices of the Chamber of Mines & Oil and, while the projected storage of natural gas and repressuring work was not brought up for consideration, a representative commitee was appointed to recommend a method of procedure for carrying out proposed work. The meeting held here October 4 adjourned subject to the call of Chairman Paul Grimm of the George F. Getty Co. and it is believed that the committee appointed will submit a definite proposal to operators for ratification on or about October 18. The initial proposal will undoubtedly be limited strictly to gas conservation but the operators' committee will continue in existence until after the crisis has been reached at Santa Fe Springs as the intensive development work already under way may compel operators to pinch in or prorate the production of crude oil if the deep Buckbee zone proves as prolific as many anticipate. The organization meeting held in Los Angeles a few days ago was merely of a routine nature as it will require several weeks of careful work before a definite program can be worked out. Practically every Santa Fe Springs operator was represented and the response to the summons of the Chamber of Mines & Oil was especially gratifying as it indicated a general appreciation of the responsibilities incurred as a result of deep-zone development.

Although California operators have been obliged to shut in 44,000 bbls. of crude oil production daily since the first of the current year in order to effect a partial equilibrium between supply and demand, the situation on the Pacific Coast has shown a considerable improvement during the past few months. The marketing situation was in a very chaotic condition during the early part of the past summer due principally to surplus production of crude oil and natural gas gasoline resulting from deep-zone exploitation at Long Beach. Prices have subsequently become stabilized, however, and the outlook has consequently taken on a more favorable aspect. Sweet crude has been in demand all the year and while the intensive development work now under way at Santa Fe Springs will probably result in a temporary overproduction during the early part of 1929, the period of flush production may be relatively short lived. Increased consumption and a further demand for sweet or light refinable crude should enable operators to handle peak production at Santa Fe Springs without much difficulty if other fields remain relatively stable.

Heavy Crude a Burden

Heavy unrefinable crude, in contrast to sweet oil, has been a burden on the market for several years and will probably continue to be a drug for some time to come. The undesirability of this heavy oil was emphasized during the early part of the week when the Standard Oil Co. announced that no further purchases of Kern County crude oil under 14 degrees gravity will be contracted on and after October 2. California refiners and pipe line companies have heretofore considered 14 degrees as the base price and consequently all schedules were predicated upon this minimum quotation, notwithstanding the fact that a large part of the production of the Kern River and McKittrick Fields, is lower in gravity than the established base. Pipe line companies have heretofore generally accepted heavy crude below 14 degrees A.P.I., producers being paid on the base price of 75 cents per barrel. The Standard stepped out this week, however, and established new quotations for this heavy oil and although it does not desire to contract the purchase of heavy crude oil below 14 degrees A.P.I. the company will accept deliveries of heavy crude on a day-to-day basis. For 11 gravity unrefinable crude the company will pay 45 cents per barrel. Twelve and 13 gravity crude is quoted at 55 and 65 cents, respectively.

The drastic reduction announced by the Standard will be an exceptionally severe blow to producers operating in the old Kern River Field as the greater majority of this oil is below 14. degrees A.P.I. These wells are unusually small pumpers and the lifting cost is consequently high, running in many cases from 50 to 75 cents per barrel. The Kern River Field yielded 187,877 bbls. of heavy crude from 1,168 wells during the month of August, approximately 120,000 bbls. of which was below 14 degrees. The average daily well production was a little better than 5 bbls. during August and while some operators were probably breaking even under the old schedule of 75 cents per barrel, it is doubtful if they can operate on the new prices just posted. Under ordinary conditions producers would cease production when operating at a loss but Kern River producers will probably be obliged to continue work due to the ever-present water trouble. Kern River, unlike other fields, is dependent on hydrostatic pressure for production and consequently the water problem is a serious one. It is practically obligatory for operators to continue production in order to prevent the flooding of their properties as this accompanying water must be pumped off. Producers in this field have been exceptionally hard hit by prevailing low prices during the past several years and their financial condition has suffered accordingly. The reaction to the new price schedule for low gravity crude is problematical but it is quite possible that a number of operators will be forced to temporarily suspend operations.

Santa Fe Springs

Interest in the deep-zone possibilities of the Buckbee horizon at Santa Fe Springs has been greatly stimulated as a result of the premature flow of the Shell's No. 12 Slusher which blew in during the course of a water test on the 5¾-inch during the early part of the past week, and although the extent of this deep horizon is still a matter of conjecture, it is believed that the preliminary flow of No. 12 Slusher will stimulate additional development in the very near future. Much of this new anticipated drilling will be undertaken by the major comnies as the Associated, Richfield, Shell and Superior are all expected to broaden their present rather limited drilling campaign in the very near future. The Shell is only running nine strings of tools on the Golay and Slusher leases in the Santa Fe Springs Field at the present time but with No. 12 Slusher actually on production flowing 1,380 bbls. daily it is logical to anticipate an immediate expansion as operators have been more or less reluctant to initiate large drilling campaigns in view of the limited amount of information available heretofore. The Associated, having recently spudded in No. 21 Clarke, is also operating nine strings of tools but will probably increase the scope of work in the near future. Development work of the Richfield Oil Co., a very progressive concern, has already reflected the extension of the deep Buckbee zone by the starting of two new wells and the seven strings of tools now in operation will be augmented by several more within the next week or 10 days.

No. 12 Slusher of the Shell, which blew in prematurely Sunday afternoon, September 30, flowing 1,500 bbls. of clean 35.6 gravity oil and 1,300,000 feet of wet gas per day from 5,758 feet, has just been killed preparatory to being deepened and completed in the usual manner. This well surprised the crew by coming in unannounced during the course of a water test and, although the State Mining Bureau did not have time to certify the effectiveness of the water shut off, the production precluded any necessity of this formality as the output was cutting considerably less than one-half of 1 per cent. No. 12 Slusher, which was bottomed at 5,758 feet with a 5¾-inch water string landed and cemented at 5,744 feet, started to flow while it was being swabbed at 1,700 feet for a water test. The initial flow, in other words, was coming from 14 feet of open hole between 5,744-58 feet. The well showed plenty of kick and may possibly show an initial output of around 5,000 bbls. per day when the additional thickness of oil sand has been opened up.

New Zone Extensive

No. 12 Slusher of the Shell is located approximately 1,800 feet west and a little north of the Wilshire Oil Co.'s deep zone discovery, No. 1 Buckbee, and based on Meyer zone contours definitely establishes the existence of an extensive major oil sand. The trend of production at Santa Fe Springs is from northwest to southeast and these two wells indicate beyond any shadow of a doubt that the deep Buckbee horizon extends entirely across Section 6 and well over into Section 5 to the east. Subsequent developments are expected to definitely reveal a greater scope and it would not be at all surprising if the deep Buckbee zone was even larger and overshadowed the Meyer horizon. The three developed horizons, Foix, Bell and Meyer, were found to be progressively larger in area and more prolific with depth and, since the Bell was of more importance than the upper, or Foix zone, and the deeper Meyer of still greater significance than the intermediate Bell zone, it is entirely possible that the new Buckbee horizon now under intensive development will be even largr and more extensive in scope than the Meyer.

The areal limits of the new deep Buckbee will probably not be definitely established for several months although completions during this intervening period will consistently extend the outer limits from time to time until the edge is ultimately reached. It is quite obvious that the amount of potential productive acreage will naturally be a very important factor in the future production and total ultimate recovery of this new zone and granting that it has a favorable thickness substantial production may be anticipated. The extent and thickness of the Buckbee horizon is of paramount importance as it is axiomatic that these two factors govern total production. Neither can be ascertained at the present time and both can only be determined by the drill.

The top of the structure at Santa Fe Springs, based on upper zone development, is located in Section 6-3-11 and the productive limits extend northwestward over into Section 36-2-12 and southeastward into Section 5-3-11. The Buckbee zone may possibly be considerably larger than the Meyer horizon and consequently the present outer limits may be extended somewhat. This is of especial importance as a part of the Union Oil Co.'s Meyer lease in the extreme southeastern part of the field has been subdivided into one-acre tracts and sold to the general public. This subdivision, known as Sunshine Acres, has been receiving considerable attention as geologists recognize the possibility that the deep Buckbee horizon may prove more extensive than is anticpated and consequently extend beyond the present limits of production.

The Texas Company's No. 7 on Mattern Lease No. 2 picked up the top of the Buckbee sand about two weeks ago at 5,680 feet and, barring any unavoidable delay, this well should be tanking oil in the very near future. More than a week has been spent in reaming out the hole but with normal progress it should be on production somewhere around October 15. This well, like the Shell's No. 12 Slusher, is located at some distance removed from the Wilshire's discovery. It is located approximately 2,000 feet northwest of the discovery and something like 500 feet north of the Shell's No. 12 Slusher. Both of these wells, incidentally, are located in the sector west of the discovery and although operators developing acreage east of No. 1 Buckbee had been making good progress, drilling operations in this immediate area have been delayed somewhat during the past

TANKER SHIPMENTS FROM LOS ANGELES TO ATLANTIC AND GULF COAST PORTS

Commodity—	Total this week	Daily average	Total last week	Daily average	This year to date	Same time last year
Crude oil	98,750	14,107	.....	.....	2,745,697	8,026,431
Fuel oil	.....	.....	.....	.....	111,621	6,495,959
Diesel and gas oil	.....	.....	.....	.....	1,543,114	2,228,626
Gasoline	158,034	22,576	336,239	48,034	10,363,964	7,148,343
Tops	.....	.....	.....	.....	259,600	.....
Coastwise—						
Crude oil	918,730	131,247	414,687	59,241	18,774,755	20,018,484
Fuel oil	112,315	16,045	356,664	50,952	12,322,912	9,977,112
Diesel and gas oil	4,183	598	31,984	4,569	815,718	317,987
Gasoline	225,690	32,241	49,557	7,080	6,651,819	7,546,265
Kerosene	.....	.....	.....	.....	64,061	155,649
Tops	.....	.....	.....	.....	171,566	152,275
Exports—						
Crude oil	.....	.....	.....	.....	1,585,007	1,958,308
Fuel oil	319,604	45,658	336,058	48,008	17,260,267	21,942,321
Diesel and gas oil	.....	.....	29,690	4,280	1,914,378	992,738
Gasoline	314,113	44,873	164,010	23,430	5,427,024	3,951,458
Tops	.....	.....	.....	.....	.....	227,204
Kerosene	.....	.....	189,560	24,223	3,142,993	1,608,643

TANKER SHIPMENTS FROM SAN FRANCISCO TO ATLANTIC, GULF COAST PORTS

Diesel and gas oil	.....	.....	.....	.....	342,425	597,158
Gasoline	.....	.....	80,246	11,464	1,596,605	1,612,975
Lubricants	.....	.....	.....	.....	277,151	370,180
Coastwise—						
Fuel oil	78,294	11,185	70,650	10,093	2,813,412	4,126,397
Diesel and gas oil	.....	.....	.....	.....	253,272	207,012
Gasoline	64,130	9,161	15,110	2,159	3,463,594	4,183,698
Kerosene	.....	.....	2,472	357	174,057	196,325
Exports—						
Crude oil	.....	.....	71,223	10,175	96,250	.....
Fuel oil	45,229	6,461	70,600	10,086	1,930,943	2,178,702
Diesel and gas oil	.....	.....	.....	.....	10,400	.....
Gasoline	12,974	1,853	5,418	774	3,544,732	2,294,485
Kerosene	.....	.....	.....	.....	464,080	719,745
Lubricants	.....	.....	.....	.....	33,535	18,370

few weeks due to George F. Getty's gasser, No. 17 Nordstrum, which has been burning continuously since September 16.

Gasser Still Burning

The construction crew completed the 200-foot tunnel dug for the purpose of intercepting the pipe in No. 17 Nordstrum 60 feet below the surface and preparations are now well under way to proceed with the plans to bring this gasser under control. It is rather difficult to set any time limit on the duration of time which will be required to complete the capping of this burning gasser. The concrete working chamber was finished below the mouth of this well during the early part of the current week and the General Petroleum's engineers immediately started to work assembling their equipment and rechecking the blueprints covering detailed plans. Rescue car No. 1 of the United States Bureau of Mines, in charge of J. M. Harrington, pulled into the field Saturday night, September 29, and they will assume control of the situation in case any gas trouble develops in the tunnel when the pipe is tapped. Extreme care is being taken to protect workers to the maximum and all of them have been heavily insured, the insurance premium being $75 per day for each man. The oil and gas from No. 17 Nordstrum showed quite a diminution during the past week and for several days the well has been heading on an average of from every 20 to 30 minutes, indicating a possibility that it might sand up at any time. The well has been averaging around 5,000,000 feet of gas and perhaps 250 bbls. of crude daily during the greater part of the past week but during the heading interval the volume of gas is practically doubled. During the first week or 10 days this well showed a very consistent flow and the flames were consequently projected for a considerable distance. During the past week, however, extreme pressure and volume of gas was only evident during the heading period as at other times the flames were rather inanimate and indicated a volume of gas devoid of extreme pressure.

A check of drilling operations in the Santa Fe Springs Field at the present time indicates the probability that this field will become an important factor in State production a lot sooner than some anticipate. This is evidenced by the fact that in addition to the 10 redrilling and deepening jobs involving former Meyer zone producers, there are 51 new wells rotating ahead below the 4,000-foot level, 67 between 3,000 and 4,000 feet, 30 between 2,000 and 3,000 feet, and 50 other recent spuds making hole above 2,000 feet. The formation at Santa Fe Springs is exceptionally conducive to fast work and if everything runs according to schedule a number of Buckbee zone completions will be listed during November and December with the result that field production will begin its anticipated major ascent around Thanskgiving and perhaps sooner. This is of special importance in view of the remarkable manner in which Long Beach has been holding up and while this field will begin a consistent decline in the near future the 182 drilling wells under way at the present time may possibly prevent a very rapid drop during the next two or three months. No one expects Long Beach to pass out of the picture over night as the extreme thickness of oil-bearing formation present in this field, over 2,750 feet of almost unbroken oil sand on top of the structure, is ample assurance of substantial production. The recent completion of several large flowing wells out in the extreme west end has focused the attention of operators on the possibilities of this section and a competitive drilling campaign may soon get under way.

Long Beach

The past week was a rather quiet one at Long Beach as far as deep-zone completions were concerned although operators are manifesting more interest in the deep-zone possibilities of the Los Cerritos section of the field where the Umpire Oil Co. recently extended and proved up a lower zone. The existence of a deeper zone in the Los Cerritos area has been disregarded up until recently and operators are consequently somewhat reluctant to initiate a comprehensive drilling campaign until another well or two is completed. There are 12 new wells headed down for the deep zone in this area at the present time and while new projects will be started from week to week, intensive development will be delayed pending further developments. Dabney & Johnston's No. 20 is the most important drilling project under way in this area at the present time and if substantial production is developed upon completion some time within the next 30 days this area will be immediately developed. Dabney & Johnston's new well was down 5,059 feet a few days ago and the bit should hit the top of the pay in the very near future.

Long Beach is one of the most remarkable fields ever opened up in California and while operators have consistently finished large wells over a long period of time development work from now on will become more difficult. The extreme thickness of oil-bearing formation and the exceptionally heavy gas pressure did not require any special study of subsurface conditions as holes could be punched down promiscuously and substantial production secured because of the existence of flush production over a large area. There is still a lot of oil at Long Beach but operators will find it necessary to give more thought to subsurface conditions from now on as some parts of the deep zone are becoming depleted. The independent operator, as a rule, drills ahead blindly during periods of flush production and in many instances successfully secures satisfactory production. This period is rapidly drawing to a close at Long Beach, however, and operators will find it advantageous to consult petroleum engineers familiar with subsurface conditions.

The importance of competent engineering advice was emphasized very clearly during the current week when the Shell brought in No. 34 Alamitos, a new well, flowing 4,365 bbls. of 31.6 gravity oil and 5,000,000 feet of wet gas daily. The Shell only took a penetration in the oil-bearing formation of 771 feet as the hole was bottomed at 6,260 feet and an 8⅝-inch water string landed at 5,489 feet. The decision of the Shell's geological staff that it would be more advantageous to produce from the upper part of the deep zone instead of opening up the entire 2,000 feet of oil sand was substantiated by the large production secured. Wells finished on adjacent properties failed to show substantial production, notwithstanding the fact they took advantage of the maximum amount of oil sand present. Recent developments tend to indicate that a part of the deep zone is either dead or depleted and is consequently thieving flush production from the lower section. The necessity of competent engineering advice was also emphasized by the Shell's No. 6 Goddard and No. 63 Marine of the California Eastern Oil Co. Both of these new wells were carried down to below the 7,000-foot level but neither of them showed an initial production comparable with No. 34 Alamitos. No. 6 Goddard of the Shell tanked 925 bbls. during the intial 24-hour production test, while No. 63 Marine of the California Eastern Oil Co. was brought in flowing 1,720 bbls. of 30.1 gravity oil daily. The former, carried down to 7,793 feet, is producing from 2,380 feet of formation, while the latter, finished at 7,238 feet, has 1,446 feet of oil sand in the lower zone.

Ventura Avenue

Several new wells were spudded in at Ventura Avenue during the past week and it is quite evident that operators will continue to pursue at least a normal development program in this field during the next several months as a number of new rigs are also in course of construction. A check of development work at the present time indicates the probable completion of about 10 new wells between now and the close of the current year and field production may consequently show a little upswing before 1929 rolls around. The Petroleum Securities cleaned out No. 4 Orton and returned this well to production during the early part of the week flowing 491 bbls. daily from 7,108 feet. Nos. 5 and 9 on the Orton lease and Nos. 1 and 4 on the Willett property should also be completed in the near future and this quartet should stimulate the production of the Petroleum Securities to a substantial extent. The Associated should bring in two new wells shortly and both of them, No. 52 Lloyd and No. 3 Ventura Land & Water, will probably be tanking oil before the close of the current month. The Shell's next completions will undoubtedly be Nos. 22 and 25 on the Edison lease and No. 23 Taylor, as this trio are all drilling in the oil sand at present.

The Richfield Oil Co. ran into mechanical trouble in its deep test, No. 1 Hobson, in the Rincon Field, and this 6,519-foot hole is being redrilled several hundred feet off bottom. This well is the most important drilling project under way in this field at the present time as it should definitely establish the status of the projected deep zone which operators hope to encounter in subsequent work. The Chanslor-Canfield Midway Oil Co. recompleted No. 2-C Hobson doing 308 bbls. of relatively clean 29.9 gravity oil daily during the early part of the week. This well, which was originally completed doing 505 bbls. per day from 2,606 feet, was redrilled and deepened to 3,721 feet and finished with a 6⅝-inch oil string carrying 419 feet of perforated. The General Petroleum recompleted No. 1 Thompson a few days ago doing 155 bbls. daily after redrilling and deepening it from 3,233 feet to 4,150 feet. This well was carried down to 4,778 feet just previous to its recompletion but was plugged back because of the unfavorable outlook.

Midway-Sunset

The Republic Petroleum has just completed its No. 32 in the Midway-Sunset Field of Kern County in Section 8-32-23 at 3,605 feet and it is expected to establish a record for the Republic zone as 1,050 feet of well-saturated oil sand has been opened up. This well will be turned loose some time within the next few days and it might bear watching as it may result in considerable additional work if substantial production is secured. The Union Oil Co.'s No. 1 Western Pacific, 4 miles south in Section 27-32-23, should also be watched closely during the next few weeks as this well is reported to have encountered an exceptionally promising oil sand of undetermined thickness. It is west of the general trend of production and may stimulate drilling to an appreciable extent. The Union's well and the substantial production developed by the Republic Petroleum and Chanslor-Canfield Midway Oil Co. to the north has greatly stimulated leasing activities during the past few weeks and most of this acreage, which has changed hands, will undoubtedly be developed in the near fu-

(Continued on Page 140)

IMPORTANT SOUTHERN CALIFORNIA WILDCATS

Company, Well, Location—	S-T-R	Depth	Status
Ring Pet. Co., No. 1 Inglewood, Los Angeles Co.	28- 2-14	4,352	suspended
Mont. Park Oil Co., No. 1 Browning, Monterey Park	26- 1-12	4,420	suspended
Mont. Park Pet. Co., No. 1 Jepson, Monterey Park	25- 1-12	380	sd. sh. drilling
World Pet. Corp., No. 1 Bell, Los Angeles Co.	22- 3-12	2,915	suspended
Associated, No. 1 Downey, Los Angeles Co.	33- 2-12	3,840	sd. sh. drilling
Empire Drlg. Co., No. 1 Bell, Los Angeles Co.	14- 2-12	4,132	fishing
Continental Oil Co., No. 1 La Mirada, Los Angeles Co.	10- 3-11	1,150	hd. sd. drilling
Shell, No. 2 Mission, San Fernando	4- 2-15	4,240	sd. sh. drilling
Andrews, Otis, No. 1 Lancaster, Los Angeles Co.	25- 8-13	2,080	suspended
Wood, B. H., No. 1 Lancaster, Los Angeles Co.	5- 7-10	589	suspended
Security Pet. Co., No. 1 Lynwood, Los Angeles Co.	13- 3-13	5,333	suspended
Harding, J. B., No. 1 Watts, Los Angeles Co.	17- 3-13	579	test, show
Easton & Smith, No. 1 Calabasas, Los Angeles Co.	19- 1-17	2,982	suspended
Russell Oil Co., No. 2 Joughin, Los Angeles Co.	25- 3-17	850	hd. sd. drilling
Calif. Drlg. Co., No. 1 Compton, Los Angeles Co.	11- 4-13	7,662	resume work
Mallory, Ellis, No. 1 Manhattan, Los Angeles Co.	30- 3-14	Rig	rigging up
Pomona Oil Co., Well No. 1, Los Angeles Co.	32- 1- 8	1,075	fishing
Anchor Oil Co., No. 1 Puente, Los Angeles Co.	19- 2-10	4,670	br. sh. drilling
Richfield Oil Co., No 1 Puente, Los Angeles Co.	9- 2-10	420	hd. sd. drilling
Calif. Eastern, No. 1 Wickham, Los Angeles Co.	5- 4-17	Mtl.	building rig
Shell, No. 1 Stern, Orange Co.	22- 3-10	5,980	250 bbls.
Bastanchury Ranch Co., Well No. 1, Orange Co.	21- 3-10	Rig	rigging up
Mesa Pet., No. 1 Newport, Orange Co.	21- 6-10	3,255	recemented
West. Drlg. & Prod. Co., No. 1 Newport, Orange Co.	18- 6-10	Mtl.	building rig
Hall Pet. Co., No. 1 Murrietta, Riverside Co.	23- 7- 3	931	rig, cable tools
Hemet Pet. Co., No. 1 Ward, Riverside Co.	9- 5- 1	2,878	suspended
Davenport O. & G. Co., No. 1 San Marcos, San Diego Co.	30-12- 2	750	hd. sd. drilling
Turner, S. S., No. 1 Escondido, San Diego Co.	25-12- 2	1,500	hd. sd. drilling
Torrey Pines Oil Co., Well No. 1, San Diego Co.	18-14- 3	1,960	gr. sd. drilling

IMPORTANT NORTHERN CALIFORNIA WILDCATS

Bolsa Chica No. 1 Kettleman, Kings Co.	30-23-19	3,502	suspended
California Oil Co., No. 1 Kettleman, Kings Co.	12-23-19	Rig	suspended
General Pet. Co., No. 1 Kettleman, Kettleman Hills	28-22-18	6,755	suspended
South Coalinga, Well No. 1, Kettleman Hills	35-24-19	3,110	suspended
Monocline Dev. Co., Well No. 1, Kettleman Hills	7-21-21	4,308	suspended
McPhail, Hugh, Well No. 1, Kettleman Hills	13-24-18	2,100	suspended
Milham Explt'n., No. 1 Kettleman, Kings Co.	2-22-17	7,235	redrilling
California Western Oil Co., No. 1 Elkins, Ventura Co.	28- 4-19	2,951	plug. back
Pirate Oil Co., No. 1 Simi, Ventura Co.	33- 3-21	120	sd. drilling
Exline, Emma, No. 1 Saticoy, Ventura Co.	33- 3-21	2,070	testing
Standard, No. 5 Saticoy, Ventura Co.	1- 2-22	1,550	hd. sd. drilling
Petroleum Sec., No. 1 Diablo, Ventura Co.	26- 5-18	6,070	hd. sd. drilling
American Oil Co., No. 1 Camarillo, Ventura Co.	33- 2-20	550	set. pipe
Star Pet. Co., No. 2 Canet, Ventura Co.	13- 3-23	6,775	suspended
Shell, No. 1 Grubb, Ventura Co.	26- 2-22	4,996	hd. sd. drilling
Bolsa Chica, No. 1 Temescal, Ventura County	3- 4-18	Mtl.	building rig
Shell, No. 2 Oxnard, Ventura Co.	33- 2-22	2,206	abandoned
Shell, No. 2 Berylwood, Moorpark	33- 3-20	7,240	fishing
Continental, No. 1 Sulphur Mountain, Ventura Co.	21- 4-22	2,280	redrilling
Continental, No. 2 Sulphur Mountain, Ventura Co.	22- 4-22	2,160	br. sh. drilling
Milham Explt'n., No. 1-A Buttonwillow, Kern Co.	8-28-23	4,662	gas well
Milham Explt'n., No. 2 Buttonwillow, Kern Co.	8-28-23	2,730	gas well
Milham Explt'n., No. 3 Buttonwillow, Kern Co.	8-28-23	2,694	gas well
Milham Explt'n., No. 4 Buttonwillow, Kern Co.	6-28-23	2,640	gas well
Milham Explt'n., No. 5 Buttonwillow, Kern Co.	5-28-23	2,560	gas well
Milham Explt'n., No. 6 Buttonwillow, Kern Co.	8-28-23	2,676	gas well
Milham Explt'n., No. 7 Buttonwillow, Kern Co.	6-28-23	2,720	testing
Milham Explt'n., No. 8 Buttonwillow, Kern Co.	16-28-23	135	sd. drilling
Doheny-Stone, No. 1 Salisbury, Kern Co.	7-29-24	4,291	suspended
Southern Calif. Gas Co., No. 1 Buttonwillow, Kern Co.	4-28-23	4,272	suspended
Southern Calif. Gas Co., No. 2 Buttonwillow, Kern Co.	27-28-23	Rig	suspended
Richfield Oil Co., No. 1 Semitropic, Kern Co.	21-29-23	3,780	sd. sh. drilling
Pacific Eastern, No. 1 Union Ave., Kern Co.	6-30-28	5,640	suspended
Pacific Eastern, No. 2 Union Ave., Kern Co.	6-30-23	4,500	suspended
Pacific Eastern, No. 3 Union Ave., Kern Co.	6-30-28	4,443	gas—shut in
Pacific Eastern, No. 4 Union Ave., Kern Co.	6-30-28	4,660	sd. sh. drilling
Pacific Eastern, No. 5 Union Ave., Kern Co.	5-30-28	4,500	hd. sd. drilling
Stabler, W. W., No. 1 Comanche Point, Kern Co.	23-32-29	2,860	clean. out
General Pet., No. 2 Edison, Kern Co.	32-29-29	3,964	abandoning
Midway Northern, No. 1 Edison, Kern Co.	29-29-30	3,680	to test
Delzel, S. A., No. 1 Delano, Kern Co.	4-26-27	2,875	gr. sd. drilling
North American Roy., No. 1 Shafter, Kern Co.	8-28-25	2,560	suspended
Standard, No. 1 San Emidio, Kern Co.	35-11-22	1,570	hd. sd. drilling
Union, No. 1 San Emidio, Kern Co.	5-10-21	Mtl.	building rig
Fresno Madera Oil Co., No. 1 Clovis, Fresno	18-12-21	4,194	suspended
Friend, G. C., Well No. 1, Tulare Co.	12-23-19	180	sd. drilling
Union Oil Co., No. 1 Huasna, San Luis Obispo	34-32-15	3,073	redrilling
Union Oil Co., No. 1 North Huasna, San Luis Obispo	12-32-14	1,450	br. sh. drilling
Panorama Oil Co., Well No. 1, San Luis Obispo Co.	7-31-21	3,002	sd. sh. drilling
Sequoia Oil Co., Well No. 2, San Mateo Co.	15- 7- 5	1,605	suspended
Sunset Pacific, No. 1 Saratoga, San Mateo Co.	13- 7- 4	Rig	suspended
Shell, No. 2 Cowell, San Mateo Co.	6- 6- 5	3,685	sd. sh. drilling
Shell, No. 3 Hutts, San Mateo Co.	16- 6- 5	3,150	hd. sd. drilling
Shell, No. 3 Petaluma, Sonoma Co.	.....	.....	location
Calhoma Oil Co., No. 1 Livermore, Alameda Co.	9- 3- 3	1,350	cemented
Foster & Hammill, Well No. 1, Alameda Co.	31- 3- 3	.....	location
N. Y. Hanlyn, Well No. 1, Alameda Co.	3- 5- 2	290	hd. sd. drilling
Tepesquit Oil Co., Well No. 1, Santa Barbara Co.	3- 9-32	2,710	cemented
Becker, Geo. F., No. 1 Summerland, Santa Barbara Co.	33- 4-25	3,090	suspended
Continental Oil Co., No. 2 Smith, Colusa Co.	31-18- 4	4,300	fishing
Colus Oil Co., Well No. 1, Colusa Co.	31-15- 4	380	redrilling
Nuna Oil Co., Well No. 1, Colusa Co.	19-15- 5	400	hd. sd. drilling
Superior Oil Co., No. 1 Calivada, Colusa Co.	31-15- 4	1,011	suspended
Marland Oil Co., No. 1 Bradley, Monterey Co.	32-24-11	4,861	redrilling
North Counties Oil Co., Well No. 2, Humboldt Co.	36- 2- 1	2,205	suspended
Humboldt Oil Co., Well No. 1, Humboldt Co.	6- 2- 1	3,041	redrilling
Kuhna, H. L., Well No. 1, Merced Co.	9-12- 9	1,490	hd. sd. drilling
Tuck, J. W., Well No. 1, Santa Clara Co.	9- 8- 1	591	hd. sd. drilling
L. A. Madera Synd., Well No. 2, Madera Co.	21-10-17	2,635	clean. out

The Moore CHAMPION DERRICK STRENGTH

Supplementing field tests, and over twenty years experience in the design and manufacture of steel derricks, every primary part of the Moore Champion Derrick was subjected to break-down tests to prove its strength.

Leg splices must remain intact even after the legs have been loaded beyond their ultimate capacity. To prove the strength of the new one-piece clamp, the test shown in the photograph was run. Two 4″ @ 15 lb. x 3′ 6″ seamless pipe sections were joined by a clamp. Pressure was applied to this unit until the pipe failed.

The maximum load occurs just before the column starts to bend. The head of the testing machine was driven down beyond this point until there was a deflection of 6″ in the test piece. The photograph shows that while the pipe was bent beyond recovery, the new Moore Clamp was undamaged.

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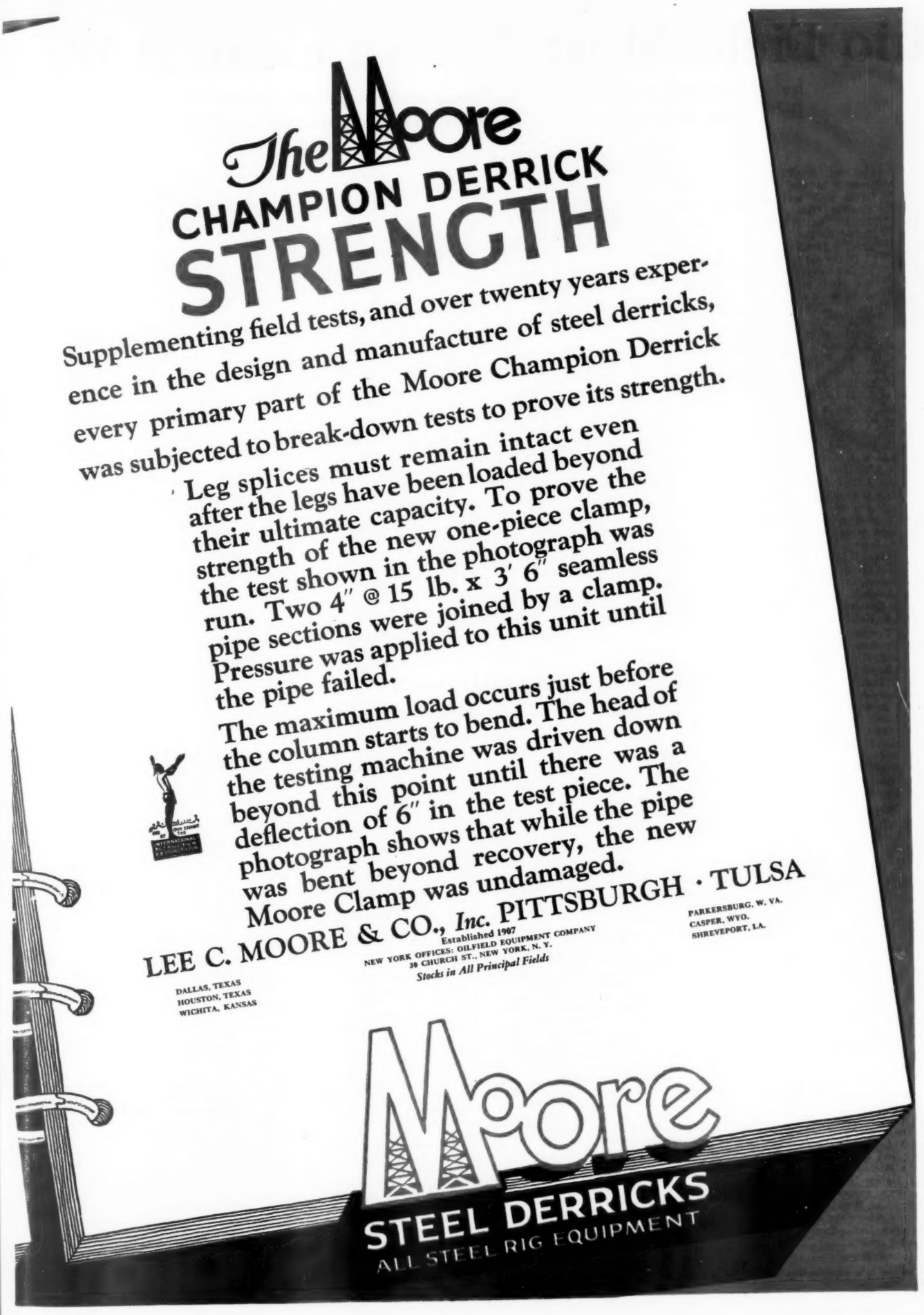

Ohio Field Most Active Central West

Pure Oil Co. Gets 225-Bbl. Producer in Hopewell Township, Licking County. Richland Has Largest Gas Well

By Whit
Staff Correspondent, Central West Fields

FINDLAY, Ohio, Oct. 8.—The most interesting development in the Central West area was in the Central Ohio Field, a 225-bbl. initial producer found on the Longham farm in Licking County.

In the old Lima Field of northwestern Ohio a few fairly good completions were found, especially in Bath Township, Allen County, northeast of Lima. In this area. Neely & Nolden's second test, 450 feet from the south line and 250 from the west line of the Philo Bassett, in the NW of Section 13, topped the Trenton sand at 1,323 feet and went 39 feet in the sand, getting a 40-bbl. initial pumper. In the same section, B. L. Carman and others' second test, 750 feet from the south line and 250 from the east line of the E. T. McCary, in the NW, topped sand at 1,363 feet and drilled 42 feet in with an initial pumping of 35 bbls. In the same township, C. A. Peavey drilled in No. 9 on the C. M. Lenney farm, Section 2, getting a 20-bbl. pumper H. F. Kelly and others' No. 1 on the Reuben Theet farm, Section 2, same township, and Ira B. Post and others' No. 8 on the William Lenney, Section 12, same township, are both near completion. In Amanda Township, same county, W. B. Evenbeck and others are drilling No. 3 A. Keith, Section 6.

In Moulton Township, Auglaize County, Herb Kelly has abandoned Nos. 1 2 and 3 on the J. F. Gearing, Section 17, and Stelzer & Boyd are drilling a second test on the J. Butcher, Section 10. In Washington Township, same county, the Brookside Oil & Gas Co. is drilling a test on the H. W. Neemeyer, Section 3. The Bachelor Oil Co. is starting No. 15 on the William T. Seibert, Section 3, Salem Township.

Margaret E. Grace is starting a test on the C. E. Roebuck farm, Section 16, Union Township, Mercer County.

Murphy Pool

In the Murphy Pool, Liberty Township, Seneca County, north of Tiffin, the McPherson Oil Co.'s No. 5 well, 700 feet from the north line and 500 from the west line of the Joseph Swartzmiller, Section 28, showed an initial of 25 bbls. Sand was topped at 1,350 feet and drilled 73 feet into the sand. Marshall Brothers' test, 800 feet from the south line and 500 from the west line of the August Flechtner farm, known as the Skranswefky farm, in the NE of Section 27. Sand was topped at 1,311 feet and drilled 100 feet in the sand. C. D. Telling and others' No. 1 on the Frank Lynch farm, in the NE Section 21, topped sand at 1,374 feet and hit a heavy dose of salt water at 67 feet in the sand, abandoning it as a failure. J. H. Murphy & Sons are drilling No. 4 on the J. Hunker, Section 28. Kimmel and others are drilling a wildcat on the Levi Reinbolt, Section 32, and O. H. Moses and others are drilling No. 1 on the F. Bollinger farm.

In Darke County, Gibson Township, J. H. Wilson and others are drilling No. 8 on the Henry Lechner, Section 18, and A. W. Neely and others abandoned No. 2 on the John Bretenstein farm.

George L. Dailey is drilling a second test on his own property, Section 34, Webster Township, Wood County. Russell M. Bell and others are drilling No. 3 William Roechen farm, Section 1, Troy Township, same county.

Indiana

The best of the late completions in Indiana was in the Siosi Pool, in Prairie Creek Township, Vigo County, where Pierce and others' second test in the NW cor. of the Pearl Shattuck farm, in the SW SE Section 32, produced 75 bbls. initial at a depth of 2,233 feet. The Ohio Oil Co.'s No. 3 in the NE cor. of the G. F. Collins, in the NE NE Section 31, same township, was dry at 2,196 feet.

In Fairbanks Township, Sullivan County, Baldridge and others' test, 990 feet from the south line and 330 from the east line of the Sam DeBaum farm, in the NE SW Section 7, came in dry at 2,425 feet.

In Monroe Township, Pike County, the Gem Oil Corp.'s No. 3 on the August Yeager, Section 9, was dry at 340 feet.

In Spencer County, in the southern part of the State, George F. Elliott and others' No. 1 on the J. G. Haines farm, in Section 4-8-6, was brought in with a better showing than the Stuteville well drilled by the same operators about a quarter of a mile to the south. Sand was about 1½ feet thicker, 7½ feet in the Haines and 6 feet in the Stuteville, and seemed to show better while drilling in. A test has not been made, due to having trouble with setting a liner. This, however, will be completed in a few days. Top of sand found at 984½ feet. To the north of the Haines, 1½ miles on the James Martin farm, Section 33-7-6, Orville Martin, trustee, is starting a test, the machine now being on the ground and making ready to start drilling. In Luce Township, same county, the Wiser Oil Co. had to abandon the test on the J. B. Richardson farm, in Section 27-7-7, on which they have been fishing for some time for an underreamer. They had an excellent showing of gas and oil in this well in the sand above the Little lime and are now spudding in on the adjoining west 40 acres on same farm to complete their test. G. P. Dickson on the Fred Butler farm, Section 1-7-6, Clay Township, is still shut down at 750 feet, but it is reported will start up in a few days.

Kerns, Folsom and others are starting a test on the John Scales farm, in Section 5-5-6 in Warrick County, this location being about 3 miles west of the old Gentryville Pool. Charles E. Finke completed his test in this county, on the J. Lang farm, in Section 35-6-8, at 1,230 feet as a dry hole.

Henderson and others have their test near Birdseye, Perry County, down below 1,100 feet, drilling below the Devonian black shale. Several showings are reported at shallower depths.

Local parties out of Bloomington, Ind., are drilling a well on the Fox farm, in Section 35-7n-1w, in Polk Township. Well is below 600 feet. This test will go to the Trenton formation and is in Monroe County.

Wheeler and others are still shut down at 1,320 feet at a test on the William Messner farm, Section 16, Cass Township, Dubois County. Phipps, Blosser and others are drilling a test near Holland in the southwestern part of the county.

The wildcat venture on the Bennett Taylor farm, Section 17, Salem Township, Pulaski County, a little over a mile south of Francisville, is about due to get the top of the Trenton formation, having been close to 600 feet a few days ago.

Illinois

The deep test being made by Edward R. List on the F. W. Knowles farm, Section 16, Spring Grove Township, Jefferson County, Illinois, is reported a dry hole. Had this test proved a producer it would have opened up an entirely new producing area for Illinois. It is south of Mount Vernon. The depth of the hole has not been announced.

In Clark County, Martinsville Township, William Gallantine and others' test on the William Gallantine farm, in the NW Section 19, is reported dry at 545 feet. In Casey Township, Bohannon and others are drilling a test on the M. Miller, Section 6. R. G. Holmes and others are drilling a test on the J. Talbot, Section 32, Sumpter Township, Cumberland County.

In Crawford County, Montgomery Township, the Union National Bank and others' No. 10 on the J. P. Sager, Section 29, pumped 20 bbls. initial at a depth of 986 feet. Toomey & McGuigan are drilling No. 7 on the J. H. Parker, Section 1. Martin Township. Dinsmoor Oil Co. is drilling No. 7 O. B. Kirtland, Section 8, Oblong Township, and has a rig in for No. 1 on the W. D. Best, Section 23. Phipps, Cawood and others are drilling No. 7 Ewing heirs, Section 31, Honey Creek Township. Karns, Scheeongast and others are drilling No. 2 Oris Musgrove, Section 16, Robinson Township. Silurian Oil Co. is drilling No. 1 Lloyd Mann farm, Section 24, Southwest Township, and has a rig in for a second test on the same farm.

In Dennison Township, Lawrence County, Phipps, Blosser and others' test in the NE cor. of the William Gillespie farm, in the NE of Section 10, was dry at 1,025 feet, being drilled for the shallow sand.

In Wabash Township, Wabash County. Smith and others' test on the F. M. Ramsey farm, Section 33, was a duster. Keneipp and others are starting a test on the George Ramsey, Section 4. Phipps, Blosser and others are working at a test on the Clara Armstrong, Section 24. Joe S. Young, Jr., and others are drilling No. 9 John Keyser, Section 13, and starting No. 1 L. G. Stillwell, Section 1.

Central Ohio

The usual number of new completions in the Central Ohio and adjacent areas makes that part of the field the most active in the Central West area. The best oil producer was made by the Pure Oil Co. in No. 1 on the Hanry Longham. Section 1, Hopewell Township, Licking County, with an initial production of 225 bbls. from the sand at 3,078 to 3,125 feet. The best gas well was found on the Jane Ohler farm, Section 28, Monroe Township, Richland County, being the largest completion in the field for a long period.

In Ashland County, Orange Township, the Logan Gas Co.'s No. 1-3,022 on the Mary V. Sharrick, Section 16, came in a dry hole. Ohio Fuel Gas Co. is drilling No. 1-3,295 on the Gilbert P. Welch. Section 1. The Kemrow Co. is drilling a second test on the John T. Fluke, Section 15, and made a location for No. 1 on the other John T. Fluke farm, Section 14, as well as a location for No. 1 on the Edgar L. Vermilia, Section 22. The Logan Gas Co. is drilling No. 1-3,038 on the M. Johnson, Section 22.

In Green Township, Ashland County,

(Continued on Page 201)

NORTHEASTERN OHIO COUNTY, KY., HAS MOST INTERESTING COMPLETION

By Whit
Staff Correspondent, Kentucky-Tennessee

OWENSBORO, Ky., Oct. 8.—The eastern half of Kentucky is very quiet, only a few wells are under way, while in the western part the drill is speeding over a large number of counties and from now until snow flies it will mean the greatest activity for the current year in that part of the State. Much wildcat drilling will be done. One of the interesting tests of the week was the bringing in of a 100-bbl. initial producer on the John Maddox farm, near Reynolds Station, in the northeastern part of Ohio County.

Combining their interests in the exploitation of a new prospective field, under the supervision of McMahan and Coombs of Owensboro, the Cumberland Petroleum Co., Petroleum Exploration Co., Rex-Pyramid Oil Co., and Paul F. Dahlgren, representing Oklahoma interests, are moving in drilling outfits on a block of 3,000 acres of leases, 6 miles east of Pellville in Hancock County, and to the north of the Fordsville Pool, in Ohio County. This block of acreage was taken up by Flem Douthitt, and purchased by the combined interests for $1,-500. Five tests will be drilled through all of the known producing sands in the Tri-County Field, to establish the possibilities of the location for oil. It is strictly a wildcat project. The territory has been geologized and the belief is that with five tests drilled a new pool should be opened. South of this acreage numerous good wells have been found in the vicinity of Friendship Church, around Dundee and in the Sunnydale Pool. The companies mentioned are all large producing concerns, with good production in the local fields as well as in the eastern Kentucky fields.

Daily production is growing in the western Kentucky area, according to reports issued monthly from the state capital at Frankfort. According to the report for August, a total of 165,810.02 bbls. was produced in Ohio County. Daviess County production was 80,920.82 bbls.; Hancock County, 1,460.99 bbls.; McLean County, 84.20 bbls.; and from the Hopkins County wells, 1,214.66 bbls. were produced, making a total of 249,-490.69 bbls. These figures do not include the production in Barren, Allen, Warren and other counties in the western division.

Pipe Line Extension

Construction of a pipe line from the Utica Field, 10 miles south of Owensboro, in Daviess County, and building of a power station about midway between the field and the central station at Doyle, will start as soon as the rights of way are procured by the Illinois Pipe Line Co., according to W. F. McCray, general manager, in charge of the company's Kentucky lines. Some difficulty is being experienced in obtaining rights of way over farms which may delay the work for a short time, but enlargement and extension of the field has advanced so rapidly these additions to the equipment of the pipe line are imperative.

It is rumored that the Producers Pipe Line Co. talks of invading the Red Hill Pool, in Daviess County, with the laying of a pipe line. This area is being taken care of by the Illinois Pipe Line Co. at this time.

Barging Oil

Low water in the Ohio River is hampering the shipment of oil by barge tanks to some extent, although it is being continued. At Cloverport the middle of the week there was but 3 feet of water on

(Continued on Page 126)

Pennsylvania Well Proves a Surprise

Butler County Completion Flows 40 Bbls. an Hour and Estimated 150-Bbl. Producer. Perry County, Ohio, Has 230-Bbl. Well

By D. S. Wakenight
Staff Correspondent, Eastern Fields

PITTSBURGH, Pa., Oct. 8.—The Southwest Pennsylvania Field had almost been lost sight of in the scramble for new production. Last week, however, it sprang to the front with an unexpected near-gusher, the best completed in many years, which goes to show that the old fields can at long intervals spring a surprise and set the talent to speculating. The well is the T. W. Phillips Oil & Gas Co.'s test on the John Harvey farm, near the Butler-Allegheny dividing line in Buffalo Township, Butler County. The well was drilled to the top of the Fifth sand a week ago and began to flow by heads. Later in the week it was drilled a little deeper and began to flow at the rate of 40 bbls. an hour. It did not hold up at that speed for any considerable time and by the close of the week was producing at the rate of 150 bbls. a day. The oil is light amber in color and of 42 gravity. It has a large paraffin content and a very high grade product. The nearest producing well is a gasser, producing a little oil, on the Elliott farm, a half mile southwest of the Harvey farm well. Leases in the vicinity have been eagerly sought and more new work will be started at once.

It is a toss up as to what the future tests will show. A new pool may be introduced and on the other hand the Harvey well may prove to be nothing more than a freak. Nevertheless, it is acceptable at this time for Pennsylvania grade crude has been growing scarce and for some time the demand has exceeded the supply.

Good Wells in Southeast Ohio

All the other good producers, but one, completed during the week are in the deep sand territory in Southeast Ohio. In the northeast quarter of Section 21, Harrison Township, Perry County, William Cline & Co. completed and shot in the Clinton sand No. 3 on the Burley-Winter farm. It flowed 230 bbls. the first 24 hours and is the best completed in Southeast Ohio for several weeks. In the northeast quarter of Section 20, same township and county, Davis L. Melick, trustee, completed and shot in the same formation a test on the Frank W. Tedrow farm. It produced 40 bbls. the first 24 hours.

In the northwest quarter of Section 5, Hopewell Township, Muskingum County, A. H. Heisey & Co. completed No. 3 on the A. O. Mitchell farm. It produced 60 bbls. the first 24 hours. In Section 15, Lawrence Township, Washington County, Shay, McMullin & Co. got better than the average shallow sand producer when they completed a test on the John L. Pat farm. The well produced 25 bbls. the first 24 hours after shot in the Keener sand.

Gassers in Perry and Holmes

In the northwest quarter of Section 19, Harrison Township, Perry County, the Ohio Fuel Gas Co. has completed in the Clinton sand a test on the Frank S. Martin farm. It is a gasser good for 1,500,000 feet. In Section 33, Paint Township, Holmes County, the same company has completed a test on the Daniel Y. Weaver farm. It is a gasser in the same formation good for 500,000 feet.

In the northeast quarter of Section 30, Green Township, Hocking County, the Griffin Producing Co. has drilled a test on the Abram Mohler farm into the Clinton sand and it is a gasser good for 2,000,000 feet.

In the northwest quarter of Section 20, Sutton Township, Meigs County, the Davis Oil Co. has completed in the Berea grit No. 5 on the Giles Hysell farm. It is a 6-bbl. pumper. In the northeast quarter of the same township, the Pure Oil Co. has started to drill on the Keith heirs' farm.

In Section 10, Licking Township, Licking County, Horpell & Ridgeway's second test on the T. C. Jury farm, is showing very little oil and will probably be abandoned.

In the northeast quarter of Section 14, Clay district, Muskingum County, H. O. Burka and others have a duster in the Clinton sand at a test on the E. Valentine farm.

Light Gasser in Fairfield County

In the northeast quarter of Section 4, Rush Creek Township, Fairfield County, Perry Sturm has completed in the Clinton sand a test on the A. Thomas farm. It is a light gasser. In the southwest quarter of Section 12, Sutton Township, Meigs County, the Twenty-Five Oil Association has completed a test on the James E. Stobert farm, good for 5 bbls. a day in the first Cow Run sand.

In Section 9, Perry Township, Licking County, M. F. Whitehill has completed a second test on the Alice Ashcraft farm. It produced 18 bbls. the first 24 hours after shot in the Berea grit. In Section 2, Mary Ann Township, Farmer & Rugg completed in the same formation their No. 7 on the Edward Wright farm. It produced 10 bbls. the first 24 hours. In Section 15, Perry Township, the Preston Oil Co.'s No. 6 on the James C. Wright farm is a light pumper in the Berea grit.

In Section 11, Mary Ann Township, Licking County, George H. Long drilled his No. 7 on the C. W. Dwiggins farm through the Berea grit and it produced 18 bbls. the first 24 hours after shot. In Section 11, Fallsbury Township, the Preston Oil Co. has completed in the same formation a second test on the Wayland Ashcraft farm, which produced 10 bbls. the first 24 hours after shot.

In the northwest quarter of Section 20, Harrison Township, Perry County, the Ohio Fuel Gas Co. completed and shot in the Clinton sand a test on the Julia D. Turner farm. It produced 45 bbls. the first 24 hours. One mile north of Amesville, Section 33, Berne Township, Athens County, I. N. Thomas has a very light pumper at No. 3 E. C. Curtie farm, in the first Cow Run sand.

Morgan and Carroll Counties

Four miles west of Chester Hill, Section 26, Marion Township, Morgan County, the Morgan Oil & Gas Co. has a gasser in the second Cow Run sand at a test on the Thomas Ball farm. It is good for 1,350,000 feet. In Section 5, Orange Township, Carroll County, Edward Risser has a duster in the Berea grit at a test on the J. A. Riggle farm.

West Virginia

In Clay district, Wetzel County, West Virginia, the Pittsburgh & West Virginia Gas Co. has drilled down to the Gordon sand a test on the J. B. Pettit farm. It is producing 80 bbls. a day from that formation. In the same district, the Manufacturers Light & Heat Co. has a gasser in the Maxon sand at a test on the W. F. Hubbard farm. In Green district, the same company has a gasser in the Maxon sand at a test on the James Elson farm.

On Big Paw Paw Creek, Paw Paw district, Marion County, the Owens Bottle & Machine Co. drilled through the Fifth sand a test on the Joseph Fluharty farm. It is a fair gasser at a total depth of 3,215 feet. On Burning Springs Run, Burning Springs district, Wirt County, Roberts Brothers have started to spud at their No. 163 on the Rathbone oil tract.

On the waters of Big Two Mile Creek, Grant district, Cabell County, the Big Two Mile Gas Co. has completed and shot in the Berea grit a test on the T. J. Morrison farm. It is 1,100 feet south of the company's test on the E. L. Braley farm and is good for 250,000 feet. On Peters Run, 1 mile south of the last-named well, in the same district, the United Fuel Gas Co. has a somewhat lighter gasser in the same formation at a test on the Frank Porter farm. On the east fork of Twelve Pole Creek, in the village of Stiltner, the Consolidated Gas Co. has drilled its test on the Millard Fry farm 1,500 feet below the Berea grit. It is dry in all formations and will be abandoned. On Brush Creek, 2½ miles southwest of the last-named well, in the same district, the same company has drilled through the Berea grit a test on the Cain Adkins farm. It is also a duster.

Shooting Old Wells

Cleaning out and shooting old wells is quite a feature in West Virginia. By this method many of the old wells respond with an increase in production. Now that the demand for high-grade crude is very great operators are resorting to every available means to secure more production and to get it from the old wells is the least expensive plan.

In Ritchie County, the Hope Construction & Refining Co. has cleaned out and shot No. 3 on the E. W. Williams farm, increasing its production from 1½ to 5 bbls. a day. The same company gave its No. 4 on the S. E. Phillips farm the same treatment and increased its production from 1 to 2½ bbls. In Gilmer County, the same company cleaned out and shot No. 3 on the R. L. Weaver farm, increasing its production from 1 bbl. a week to 5 bbls. a day.

Starting New Work

In Sheridan district, Calhoun County, the Great Elk Oil Co. has a rig up on the Samuel Bachman farm. In Eagle district, Harrison County, the Delaware Gas Co. is due in the sand on the J. S. Allen farm. In McComas district, Cabell County, Lusher Brothers are fishing at 1,323 feet on the G. L. Lusher farm. In Liberty district, Marshall County, Burton & Orndoff are rigging up on the R. A. Teagarden farm. On Mayberry Run, Murphy district, Ritchie County, Park Bowser is spudding in at another test on the F. C. Grimm farm.

In Sardis district, Harrison County, the Conservative Gas Co. has started to drill on the Lloyd Harbert farm. In Coal, Washington and Union districts, Harrison County, the Vesper Gas Co., the Cumberland & Allegheny Gas Co. and the Washington Gas Co. are drilling to the lower sands, tests on the E. D. Tetro, George Lowther and Chapman G. Smith farms.

On Elk River, Big Sandy district, Kanawha County, W. S. Hall and others have the rig completed for a test on the J. V. Dorick heirs' farm. In Center district, Wetzel County, the Hope Natural Gas Co. is rigging up to drill deeper its test on the J. K. Long farm. In Sand Hill district, Marshall County, the Myers Oil & Gas Co. has part of the rig material at a location on the C. M. Strickland farm. In Liberty district, Burley & Orndoff have started to drill on the R. A. Teagarden farm.

In Ellsworth district, Tyler County, J. E. Pents has made a location on the Davis Smith farm. In Sherman district, Calhoun County, the Carnegie Natural Gas Co. has started to drill on the R. P. Bennett farm. In Lee district, F. F. McIntosh & Co. are building a rig on the Morgan-Fox farm. In Ripley district, Jackson County, the Parsons Oil & Gas Co. is rigging up on the W. L. Costo farm. In Spencer district, Roane County, M. H. Hersman is testing for oil on the Nathaniel Boggs farm.

Roane County

In Spencer district, Roane County, West Virginia, F. F. McIntosh completed a test on the James Allen farm. It is dry and abandoned. In the same district, M. M. Hershman & Co. are testing for oil on the Nathaniel Boggs farm.

In Sherman district, Calhoun County, the Hope Natnral Gas Co.'s test on the Isaac Tucker farm is a gasser in the Big Injun sand. In Center district, C. B. Lewis & Co. have a Big Injun sand gasser on the Albert Smith farm. In Lee district, the United Carbon Co.'s test on the A. H. and J. J. Davis farm is a gasser in the same formation.

Deep Duster in Monongalia County

In Battelle district, Monongalia County, the White Creek Oil & Gas Co. has drilled a test on the John Stiles farm through the Bayard sand to a total depth of 3,413 feet. It is a duster.

In Green district, Wetzel County, the Hope Construction & Refining Co.'s No. 1, Stephen Midcap farm, dry in the Big Injun sand, has been filled up to the salt sand and is showing for 6 or 8 bbls. a day. F. F. McIntosh has a duster in the Big Injun sand on the Clara and G. W. Cunningham farm. This location is in Spencer district, Roane County, 1 mile north of the Hope Construction & Refining Co.'s test on the Frank H. Simmons farm on Henry Fork.

On Dry Ridge, Grant district, Ritchie County, the Mid Penn Oil Co. has drilled its old test on the C. S. Pearsey 8 acres to the Big Injun sand. It is a gasser good for 500,000 feet. On Robinson Run, McClellan district, Doddridge County, William Moses and J. M. Raad have a fair gasser in the Gordon sand at a test on the Lloyd Flanagan farm.

On the right-hand fork of Big Run, Washington district, Jackson County, W. E. Richmond and others have drilled a wildcat on the W. L. Curry farm through the Berea grit. It is a duster. The location is 5,360 feet southwest of the Heck Oil Co.'s test on the George Kuhl farm.

Southwest Pennsylvania

In Dunkard Township, Greene County, George Parry and others have completed in the Dunkard sand a test on the Mary Sterling farm. It is a fair gasser. In the same township, J. L. Garard & Co. have abandoned their test on the Charles McWilliams farm.

In Perry Township, the Carnegie Natural Gas Co. has drilled down from the Big Injun to the Bayard sand No. 1 Minor Lemley. It is a 5-bbl. pumper at a total depth of 2,977 feet. In Whitely Township, the People Natural Gas Co. has completed in the same formation at a depth of 3,210 feet, a test on the John Lantz farm. It is a gasser good for 700,000 feet.

In Morris Township, Greene County, the Manufacturers Light & Heat Co.'s test on the Mary Pettit farm is a gasser in the Big Injun sand.

In Whitely Township, Greene County, the Carnegie Natural Gas Co. has completed at a total depth of 3,255 feet a test on the Prisella White farm. It is a gasser good for 800,000 feet. In the same township, the same company has a fair gasser at a second test on the C. P Rose farm. In Dunkard Township, the same company has drilled down from the Big Injun sand to the Bayard sand a test on the B. V. Williamson farm. It is a gasser good for 500,000 feet.

$750 In Gold Wi

In Daily Attendance Prizes at the Fifth In

Acme Fishing Tool Co.
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American Iron & Machine Works, Inc.
Atlas Supply Company
Baker Casing Shoe Co.
Baird Tool Works
Baldwin Chain & Mfg. Co.
Braun, C. F., & Co.
Bartlesville Supply Co.
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Bridgeport Machine Company
Camp, C. F., Company
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Cooper, Fred E.
Cooper Co., C. & G., The
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Lufkin Foundry & Machine Co.
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Walworth Co.
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$50 daily prizes, $250 given the last day, October 29.

WHERE?

Fifth International Petroleum Exposition, October 20 to 29, Tulsa, Oklahoma.

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Go to The Oil and Gas Journal Booth, centrally located in the Exposition Grounds, immediately upon arrival. Each visitor registering will be given a ticket numbered in duplicate, part of which is to be held for identification, and part to be deposited in the deposit box, location of which can be learned at The Oil and Gas Journal booth.

WHEN WILL DRAWINGS BE HELD?

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WHO MADE POSSIBLE THIS FEATURE OF THIS YEAR'S EXPOSITION?

The exhibitors, partly listed on the left, in co-operation with The Oil and Gas Journal.

Gas Journal Booth

MEN KNOWN IN OILDOM

Clyde H. Alexander

Clyde H. Alexander, vice president and general superintendent of the Phillips Petroleum Company, started work in the oil fields at the age of 13, driving a lease team in Venango County, Pennsylvania, where he was born. Later he became a pumper, and the work of a pumper in those days kept time from hanging heavily on his hands. The wells were pumped by steam. The boiler on this lease, like many others, had no injector. Starting at 6 in the morning, Clyde would fill the boiler with a bucket and then get up steam. After pumping the lease for about three hours he would have to let the boiler cool off, refill it with water, fire up and start all over again. In the winter, when the lease had to be shut down because of freezing weather, Clyde worked in a logging camp.

At 23 the young oil worker went to Oklahoma, working in the Nowata, Washington and eastern Osage County fields as a driller and then as driver of a nitroglycerin wagon. Eventually he became farm boss for the old Douglas-Lacy interests and had charge of their properties in the eastern Osage at the time the three Phillips brothers, Frank, L. E. and Waite, bought them out. Then he was with the Wolverine Petroleum Corporation for a time, after that company purchased the properties on which he worked. In 1917, Mr. Alexander rejoined Frank and L. E. Phillips, who had organized the Phillips Petroleum Company. He was advanced to positions of greater responsibility till he was made vice president in charge of all field operations, and he is credited with being an important factor in the success of the company.

With Mrs. Alexander and their three children, Mr. Alexander resides in Bartlesville, Okla. Big-game hunting is his hobby and each year he spends several weeks in this sport in the mountains of New Mexico, Colorado or Wyoming.

PERSONAL PARAGRAPHS

S. S. Price, oil operator of Tulsa, spent several days in Fort Worth last week on business.

* * *

C. C. Potter, chief geologist of the McMan Oil & Gas Company, Tulsa, spent several days in West Texas last week.

* * *

W. Guy Sinclair, of the Gulf Production Company, Wichita Falls, Tex., has returned from a trip to the Rocky Mountains.

* * *

Capt. E. H. Eddleman, of the American Refining Properties, returned to his home in Wichita Falls, Tex., following a trip to Charlotte, N. C.

Mr. and Mrs. King Houston have returned to Petrolia, Ontario, on furlough from the Peruvian fields.

* * *

R. J. St. Germain, geologist and oil producer of Tulsa, is expected back this week after a vacation spent in Wisconsin.

* * *

Robert White, sales manager of the Chicago district of the Valvoline Company, is in Detroit, Mich., in the interest of his company.

* * *

C. P. Watson, Federal Royalties Company, Fort Worth, has returned from a business trip of several days duration in Houston, Tex.

* * *

E. W. Edwards, of Cincinnati, Ohio, president of the Paragon Refining Company, has returned to his home from a three months' sojourn in Europe.

* * *

John Holleran, oil producer of Okmulgee, Okla., has just completed a vacation spent in touring the Rocky Mountain resorts, and is visiting in Tulsa.

* * *

E. C. Stearns, general manager of the Big Lake Oil Company, has returned to his headquarters following a business trip to the state capitol at Austin.

* * *

R. G. Meehan, Mid-Continent representative of the Barber Asphalt Company, is calling on the major oil refineries in Chicago and St. Louis territories.

* * *

A. W. Thompson, sales manager of the Westcott Valve Company, is a visitor in St. Louis for a few days, and is absent from his Tulsa headquarters.

* * *

R. A. Wolfe, president, and R. H. Hawn, secretary-treasurer, of the Texas Gas Company, Houston, Tex., made a short business trip to San Antonio, Tex.

* * *

T. J. Donoghue, executive vice president of The Texas Company, has returned to his office at Houston, Tex., following a months' vacation and business trip to the East.

* * *

W. J. Sherman, of the production department of The Texas Company, Houston, Tex., has left for a two weeks' vacation making a motor trip to St. Louis and other points.

* * *

James Anderson, vice president of the Humble Oil & Refining Company, Houston, Tex., has returned to his office following a months' vacation spent on the Pacific Coast.

* * *

A. S. Close, vice president of the Hickok Producing Company, of Toledo, Ohio, is in Detroit, Mich., making a survey of the properties purchased by his company in Detroit.

* * *

James Hunter, scout for the Dixie Oil Company in the Shreveport, La., division, has been transferred to the Enid, Okla., headquarters. J. R. Bradshaw succeeds him as chief scout.

* * *

B. A. Hardey, executive vice president of the Moody-Seagraves companies at Houston, Tex., in charge of operations, spent several days in Shreveport, La., and Waskom, Tex., this week.

* * *

R. R. Brandenthaler, petroleum engineer of the United States Bureau of Mines attached to the Bartlesville, Okla., experimental station, is spending some time in the Michigan oil fields.

* * *

C. A. Alexander, superintendent of the Kettle Creek Refining Company's plant at El Dorado, Ark., has been transferred to the company's Tulsa headquarters, and is succeeded by C. O. Galbraith.

* * *

R. S. McFarland, president of the American Association of Petroleum Geologists, and J. P. D. Hull, business manager of the association, have returned to their headquarters in Tulsa, following a business trip to Fort Worth.

* * *

Mason Day, vice president of the Sinclair Exploration Company, and George W. Loft, president of Loft, Inc., have been elected directors of the Venezuelan Petroleum Company, in place of T. H. Banks and S. K. Farrington, who resigned.

A. H. Collins, of the New York office of the Chicago Pneumatic Tool Company, is making a business tour which includes the Mid-Continent and California oil fields.

* * *

B. L. Ryan, superintendent of the Roxana Petroleum Corporation's land department and headquartered at Dallas, Tex., has returned from a business trip to West Texas.

* * *

W. G. Hayden, operating in the Owensboro, Kentucky, Field, has left for Horburg, Alberta, Canada, for a month's hunting of big game in the foothills of the Canadian Rockies.

* * *

Mr. and Mrs. Thomas Ward and family are visiting Petrolia, Ontario, before returning to the Peruvian fields, where Mr. Ward is employed with the International Petroleum Company.

* * *

Roy C. Cronise and Mrs. Cronise, Pittsburgh, Pa., the former connected with the Southwest Pennsylvania Pipe Line Company, have returned from Denver, Colo., where they visited Mr. Cronise's parents.

* * *

Earl E. Clayton, for some time head of the lease and land department of The Texas Company in the Wichita Falls district of North Texas, has resigned and is now engaged independently in that territory.

* * *

F. W. Burford, president of the Burford Oil Company, has returned to his headquarters at Shreveport, La., following an extensive tour over West Texas and to Pecos City where the Burford company is building a refinery.

* * *

Joseph Hartman, president of the Imperial Oil & Gas Products Company, of Pittsburgh, Pa., is visiting his son, Paul Hartman, vice president of the company, in charge of the company's business in the Owensboro, Kentucky, Field.

* * *

Edward Hanley, interested in oil and gas production in the Eastern fields, was in Tulsa last week, after completing a trip through the southwestern states and a visit on the Pacific Coast. He is en route to his home at Bradford, Pa.

* * *

Clyde M. Bennett, general manager of production of the Vacuum Oil Company, with headquarters in Houston, Tex., has returned to New York City, his former home, for a short time after looking over the Vacuum company's properties in West Texas and the Coastal territory.

* * *

J. J. Kenney, Pittsburgh, Pa., general manager of the Eureka Pipe Line Company, T. C. Towl, Pittsburgh, Pa., superintendent of the Southwest Pipe Line Company, John Darr and R. C. Cronise, directors, attended a directors' meeting of the two companies held at Oil City, Pa.

* * *

John Edwards, vice president and general sales manager of the Paragon Refining Company, of Toledo, Ohio, and president of the Wayco Oil Corporation of Detroit, Mich., has returned to his home in Toledo, after inspecting the various holdings of the company throughout Ohio and Michigan.

* * *

R. B. Hall, southwestern representative, oil industries department, The Philip Carey Company, with headquarters at Dallas, Tex., accompanied by C. J. Van Landeghem, manager oil industries department, of the same company with headquarters in Cincinnati, Ohio, spent several days in Tulsa recently.

* * *

Andrew Schlee, general manager of the Wayco Oil Corporation, Detroit, Mich., has returned from a fishing trip to Lake St. Clair. Mr. Schlee has numerous properties in the Saginaw, Michigan, Field, and is drilling a wildcat well owned by himself and associates on a block of 85,000 acres, in Alberta, western Canada.

* * *

B. E. Hull, president of the Texas Pipe Line Company, Houston, Tex., has set another record for speed in his new airplane, the Texaco No. 2, so far as known. Mr. Hull, piloted by Matt Nienenan, flew from Milwaukee to New York, a distance of 780 miles in 5 hours and 20 minutes. This flight was a part of an extended air journey starting at Houston, Tex., September 25.

Field Problems and Their Solution

EDITED BY THOMAS F. SMILEY

In order that men connected with the drilling, producing and transporting branches of the petroleum industry may procure quickly a solution of many problems confronting them from time to time in their work, The Oil and Gas Journal has arranged with leading engineers and other recognized authorities to answer questions submitted by readers of this publication pertaining to the work of drilling and producing crude oil and transporting this product.

Everyone is invited to submit questions freely. These questions will be submitted to proper authorities by Mr. Smiley, who edits the page, and answers, based on the best available information, will be published. Each question should give as much detail as possible, especially where it relates to matters where depths of sands, types of sands and operations on adjoining properties would have a bearing on the problem involved. The source of all questions will be considered as confidential and only initials will be published in connection with the question.

In this connection, The Oil and Gas Journal will be glad to publish articles from field men who have devised new methods or practices which are improvements.

In case an immediate answer is important, one will be given by mail if the writer requests it.

MORE ON RUMANIAN PRACTICE

The following communication, conveying further information upon the method of making water shut-off tests in Rumania comes from a well-known engineer:

"In answer to a question by J. B. T. it was stated that the Rumanian government requires water shut-off tests to be made by filling the casing with water and applying additional pressure through a casinghead to determine whether or not the well will take water. The above method is used only in very rare cases when a water string is accidentally landed (due to faulty measurement or otherwise) within a few feet of a high pressure oil or gas sand and it is feared that by bailing the hole for a water test the cap rock may be broken by the pressure in the sand and the well start flowing wild through a water string. Wells are not allowed to produce in Rumania through a water string and the laws of the country require in all cases that a complete oil string be run. It might be mentioned here that some of the producing sands in Rumania register casinghead pressures up to about 1,300 pounds.

"The usual method of testing water shut-offs is as follows: The known water sands are tested in several wells in a field in order to establish their hydrostatic level. The water tests are then carried out by emptying the casing to a point from 150-600 feet below the known hydrostatic levels of the sand for any particular region.

"The last water string, generally 8 inches or smaller, is tested by bailing the hole dry. All tests are of 24-hour duration and are carried out by a government official and in the presence of two representatives of companies owning adjoining acreage.

"I thought the above information might be of interest."—E. C. M.

OVERCOMING POND NUISANCE

Are you able to tell us of any way of getting rid of the green slimy moss or seaweed that collects in the water of our spray pond and clogs valves and pipe lines? Every once in a while the condition gets so bad that we have to drain the pond and give it a thorough cleaning. This interrupts operations and is pretty costly besides being an all-round nuisance. I have been told that copper sulphate is used with success in these cases. If that is so, I would appreciate some directions about using it. If there is any other way that you regard as better I would like to know about it. We have this trouble mostly in the hot weather, but as our summers are long here there isn't much of the year when we don't have it in some degree.—O. S. T.

Copper sulphate has been used a great deal and with success in removing this stringy moss, or algae, from spray ponds, but potassium permanganate seems to be more favored. From the Power Plant Equipment Co., Kansas City, Mo., maker of spray cooling equipment, the following directions were obtained:

"Potassium permanganate will eliminate algae efficiently and economically, while the pond is being operated. No pond shutdowns are necessary.

"To use potassium permanganate for this purpose, dissolve the permanganate in hot water and add to the pond water, using about 10 parts permanganate to a million parts pond water. One pound permanganate dissolves in 1¼ to 1½ gallons hot water. The permanganate attacks the algae, forming a brown coating over it, causing it to settle to the bottom. The water, which is at first pink, decolorizes and becomes clear. If the water does not stay pink for at least 15 to 20 minutes, further similar treatments are added. The total amount of permanganate necessary depends upon the amount of algae and other organic matter present in the pond.

"Enough permanganate must be added at one time to make the water pink for at least 15 to 20 minutes. Small additions daily to a large pond will not help to keep the algae down, as the permanganate is decomposed by the water and made into such a dilute solution that it is not strong enough to attack the algae.

"If sufficient permanganate has been added to the pond water so that it stays pink for at least 15 minutes, further treatments are not necessary for several weeks. The temperature of the pond, the condition of the replacement water, cleanliness of the basin floor, etc., are factors which determine how often the pond must be treated. It is noncorrosive to pipe lines, pipe fittings, valves, condenser tubes, nozzles, etc., when used as above directed."

PLACE OF THE GEOLOGIST

I wish you would tell me just how geology and the geologist are regarded in the oil industry. In this part of the country one hears a good many remarks of a sneering character about geologists. I know that at least some of the big oil companies employ geologists. I would like to know to what extent this is done and I would like to know a little about how the geologist does his work in finding oil, if he really does find it.—D. I. S.

The part which the geologist now plays in finding petroleum pools and in the estimation of petroleum reserves is told very well in the American Petroleum Institute Handbook. The geologist was slow to be accepted in the oil industry. When he first appeared about two decades ago he was put in the same category with "oil witches" and "oil smellers." The designations "rock hound," "wrinkle chaser" and "pebble pup" date back to that time, not so long ago, when oil producers were either skeptical of the value of geology in oil production or entirely convinced of its uselessness.

Today almost every producing company of importance considers it indispensable. Trained geologists carry on this work. The first aspect of this activity had to do with surface geology. More recently came subsurface geology. Subsurface geology is carried on principally through study of the logs of wells. A log showing every formation through which the drill stem penetrates is kept by the driller. The samples of rock bailed from the well are taken to the laboratory and the rock bits reduced in size until the largest piece has a diameter of about one-fiftieth of an inch. These small particles are carefully washed. Thorough microscopic examination of the various particles is made.

Beds are distinguished by the presence of type fossils, presence or absence of certain minerals, and in local regions sometimes by general appearance of rock particles. These fossils and minerals used as markers are not always easily found. Often they are discovered only after long and tedious search under a high-powered lens. Nevertheless, when once found and correctly placed in the geological column, they become of great value in locating oil-producing horizons.

The oil industry, which smiled up its sleeve at the college-reared geologist, now not only accepts the geologists but welcomes the paleontologist.

INJECTING EXHAUST GASES

We are contemplating the injection of exhaust gases from our compressor plants and power engines into the oil sands on several of our repressured properties. This will involve mixing hot carbon dioxide, carbon monoxide and water vapor with the air now being injected into the sands. We have information that this gas in conjunction with water will dissolve lime. Is this true? Is there any danger that this gas might cause chemical action detrimental to our producing formations? Do you think it is advisable to use this gas and will it dissolve in oil better than air? We also understand that this gas is nonexplosive and that when mixed with natural gas in air, it will tend to lessen the explosion hazard. Is this true? If so, should we not be able to recycle our casinghead gas without danger of explosions?—T. G. L.

The method that you outline has been tried by other operators. Some are still injecting exhaust gases into their sands but most of them have abandoned that practice because of the disastrous stimulation of corrosion that it caused.

The carbon dioxide of the exhaust gas, when mixed with water, will dissolve small amounts of lime and will hold the lime in solution as bicarbonate of lime until the excess of carbon dioxide is liberated from solution in the water. Then the lime will be deposited as calcium carbonate. It is possible that this calcium carbonate or "gyp" will plug the sands around your producing wells where the diminishing gas pressure permits the escape of carbon dioxide from the water that may be present.

The carbon monoxide would probably cause no serious trouble, but the water vapor may increase the formation of cut oil. In one case on record, the formation of cut oil was increased by the injection of exhaust gases.

Carbon dioxide is more soluble in oil than either air or natural gas but the results of experiments involving the use of carbon dioxide for repressuring oil sands are not available at this time. Some of the larger oil companies have experimented with carbon dioxide for repressuring oil sands, but their results have not yet been made public. No reports are available of any improved results from the injection of exhaust gases into oil sands and that practice is not recommended on account of the serious corrosion that it causes.

If you could inject enough exhaust gas into your oil sand, you could produce by long continued recycling a gas that would be inert and nonexplosive. As a matter of fact, some of the large oil companies are now accomplishing the same thing by recycling casinghead gas containing such large proportions of nitrogen and carbon dioxide that it is inert. On these properties the air which is put into the pressure wells seems to be changed during its passage through the oil sands to nitrogen and carbon dioxide. It is possible that you have similar conditions on your properties and it is suggested that you conduct field analyses of your casinghead gases to find out. If you find you do not have such conditions you can then avoid any danger of explosions by keeping the proportion of gas in your gas-air mixtures well above 15 per cent.

In the absence of any conclusive evidence that the injection of exhaust gases are beneficial to oil recovery you are advised not to try this method.

CROOKED HOLES CAUSE WEAR

In pulling a string of tubing recently I discovered that at different places it showed clear signs of wear on the outside. This well was on the pump. I expect more or less wear on the inside of the tubing, of course, because of friction from the sucker rods, but I don't understand why there should be any considerable amount of wear on the outside. —S. E. M.

You evidently have a crooked hole so that the tubing lies against the casing. There is always some play or movement of the tubing in a pumping well caused by the up-and-down strokes of the sucker rods. This is accentuated by the increased friction of the sucker rods against the walls of the tubing in a crooked hole. You doubtless are getting serious wear on your sucker rods, on both the inside and the outside of your tubing and on the inside of the casing.

The best way to combat this trouble is to use adequate sucker rod and tubing guides or spacers. There are several kinds of guides and casing protectors on the market at this time.

Several of the large oil companies have reported recently to this department the same sort of trouble in pumping deep crooked wells. In a few extreme cases the tubing collars have been worn through from the outside. When this sort of thing is occurring the operator should certainly use tubing spacers or guides to protect both the tubing and the casing.

A QUESTION IN CEMENT

Will you please tell me what cubic volume one sack of cement will occupy after it has been mixed with water and allowed to set?—K. F. T.

One sack of neat cement when mixed with water to the usual consistency and allowed to set will occupy approximately 1.1 cubic feet. For making oil-well cement calculations you are referred to the cement tables that have been prepared by the United States Bureau of Mines. You can obtain these by addressing a request to the Superintendent of Documents, Government Printing Office, Washington, D. C.

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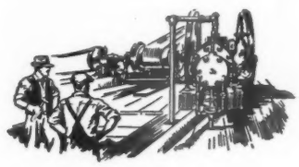

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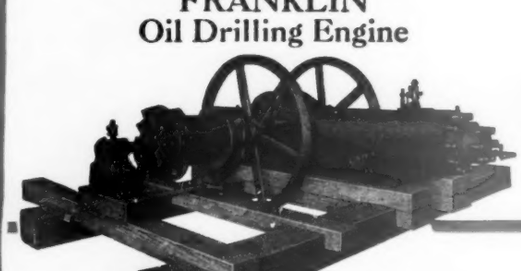

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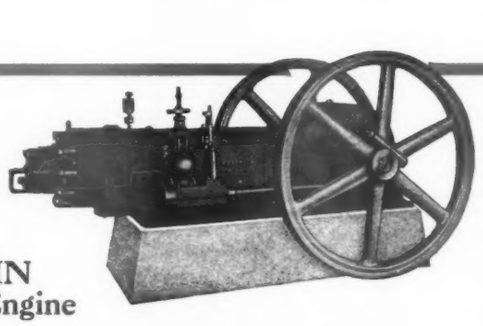
After Drilling Move in
a FRANKLIN Pumping Engine



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Branches

Kevin-Sunburst Rich in Oil and Gas

Its Shallow Depth and Low Cost of Drilling and Producing Made Its 18,000,000-Bbl. Production Profitable

By Fred C. Platt

The Kevin-Sunburst Field in Toole County, Montana, is thus far the largest and most prolific oil area developed in the State. Up to the close of September of this year it has produced in round numbers 18,000,000 bbls. of marketable oil and at this writing it was producing around 7,800 bbls. a day. Since the opening of the field in 1921 over 900 oil-producing wells have been completed and 120 gas wells drilled. At the close of September of this year there were 757 wells producing, an average of over 10 bbls. a day per well, a good average in a field of the age of Kevin-Sunburst. Some of the wells in the field have yielded hundreds of thousands of barrels.

The Kevin-Sunburst field extends from 3 to 24 miles north of the city of Shelby, and from 3 miles west to 14 miles east of the town of Kevin, including Townships 32 to 35 North, Ranges 1 to 3 West.

The northernmost area lies 11 miles south of the international boundary, and the Province of Alberta lies directly north. The structure includes about 357 square miles of more or less proven territory. It is the most northern oil field in the United States. The nearest field of any importance in Montana, to date, is the Cat Creek Field, about 250 miles south.

The first well in Kevin-Sunburst Field was drilled in Section 16-35n-3w by the Gordon Campbell-Kevin Syndicate. Drilling started in April, 1921, and was completed March 14, 1922. Oil was found at 1,770 feet in the contact between the Ellis-Madison formations. Later this well was drilled into water and abandoned. The total depth of the well was 2,540 feet and the initial production never exceeded 20 bbls.

The second well, the first commercial well, was drilled by the Sunburst Oil & Gas Co. in Section 34-36n-2w. It was completed June 5, 1922, with an initial production of 100 bbls. of 36 degree oil. The oil was found in the Sunburst sand at 1,545 feet. Later the Ohio Oil Co. acquired this acreage and the well is now called the Ohio-Sunburst No. 1 Davey. This discovery was responsible for the active entrance of the large companies, though previous to this event representatives of nearly all the larger companies were purchasing acreage in the field.

Active entrance of the Ohio Oil Co. with the completion of the Sunburst well started a vigorous drilling campaign. Since that time many large companies have entered the field, including the California Co. (a subsidiary of the Standard Oil Co. of California), the Mid-Northern Oil Co. (a subsidiary of the Mid-West Refining Co.), the Continental, the Western Petroleum Exploration (a subsidiary of the Trico), the Gypsy Oil Co., Carter Oil Co., Homestake Exploration Corp. (a subsidiary of the Texas Pacific Coal & Oil Co.), the Northern Star Oil & Refining Co. (a subsidiary of the California Petroleum Corp.), the Julian Petroleum Corp. and many other smaller companies.

Following the completion of the Sunburst Oil & Gas Co.'s well, locations were made and wells completed over the entire area of the field. Large production was found when three new and separate areas were developed during the next 12 months of competitive drilling.

The First Group

The first of these (areas or groups of location) where concentrated drilling was done, is around the original Sunburst well in Sections 4 and 9-35n-2w, including the Ohio's now famous No. 3 Baker and the Homestake's No. 3 Howling. The Ohio's No. 3 Baker has, to date, produced 800,000 bbls. of oil; the Homestake's No. 3 Howling, approximately 500,000 bbls.

The second group, 6 miles south of the first, in Sections 4 and 5-34n-2w, including the Queen City, Shoshone and Ohio companies, have been very active up until 1926. Wells in this group had been coming in for an initial production of as high as 5,000 bbls., but water intrusion has been a great detriment, and the entire area now has settled to less than 1,000 bbls. New wells drilled here have not increased the production, so that the area has been dormant since 1927.

The Third Group

The third group, about 4 miles east and 5 miles south of the first group, in Sections 30 and 31, Township 35n-1w, comprising the Rice-Fulton, Rose, Big West, Dakota-Montana and Homestake leases, held the attention of all operators, due to the large initial production of the wells (from 1,500 to 5,000 bbls. a day) and the manner in which they held up.

This area was more extensively developed than any other area in the field, and has proven far more consistent in its average of producing wells than any so far developed.

During the year 1926 several stray Ellis sand wells were found about 2 miles east of the third group. This oil is about 42 degrees in gravity and has been selling for from 75 cents to $1 above the posted field price. There is a possibility that the stray sand, which is from 50 to 100 feet below the Sunburst sand, may be productive in many places around the edge of the field, as the Peterson No. 1 Broderick on the extreme south slope of the field found a very good show of oil in about the same geological horizon. More wells will help determine the possibilities of this sand in this area.

Several wells have been drilled on the extreme western flank of the structure, about 3 miles west of Kevin, and have found small production in both the stray and Ellis sands.

Early Pipe Line Facilities

As soon as the field showed its commercial possibilities the Illinois Pipe Line Co. established headquarters at Sunburst, and at the present time has laid over 140 miles of pipe line. These lines are connected with all producing wells in the field and deliver oil to Coutts, Alberta, for shipment to points in Canada, and to their tank farm at Shelby.

In 1926 this company moved its headquarters to Shelby and also built a 6-inch line from No. 3 pumping station in Section 31-35n-1w to Shelby. At the Shelby end of this line the company has erected two 55,000-bbl. tanks and built a loading rack on the main line of the Great Northern Railroad. These two tanks and loading rack have since been dismantled, but the 6-inch line is still in operation.

During 1926 the Maple Leaf Oil & Pipe Line Co. (Rice-Fulton) laid a private 4-inch line to Coutts, and the Homestake Exploration Corp. a private 4-inch line to their tank farm at Sunburst.

During 1926, twenty 80,000-bbl. and one 35,000-bbl. tanks were built at the tank farm at Sunburst by the Illinois Pipe Line Co., while the Homestake Exploration Corp. erected seven 80,000-bbl. tanks, which made a grand total of 2,195,000 bbls. of new storage built during the year.

In 1924, the Montana Giant Oil & Refining Co. built a 2-inch line from the Shoshone lease in Section 4-34n-2w to Kevin in order to supply its refinery there. Later, this line was extended to the Big West lease in Section 31-35n-1w. During the year 1926 both the pipe line and the refinery at Kevin were taken over by the Big West Oil Co.

Due to the extreme weather conditions, poor market for crude oil, and various other reasons, the field was entirely shut down during the winter of 1923-1924, from October, 1923, to April, 1924. Since the completion of the International Refining Co. at Sunburst in August, 1924, the Illinois Pipe Line Co. has run continuously. Several of the larger oil well supply houses, such as the National, Continental and Oil Well, have large warehouses in Shelby and Kevin, so that repairs and supplies of all kinds are always obtainable.

Important Gas Production

In the fall of 1926 the Northern Natural Gas Development Co. and the Sunburst Oil & Refining Co. started to develop the gas area in the southern part of the field, because a contract between it and the Hope Engineering Co. had been signed whereby the Hope company would build a gas line from the field to Great Falls, a distance of over 80 miles, provided the above companies developed 150,000,000 feet of gas or better within a limited time over the entire area. Not more than one well was to be drilled on any 160 acres. The required amount of gas was developed by the summer of 1927, and the line from the field to Great Falls was in operation and delivering gas in the spring of 1928. It is estimated that this line will be handling nearly 20,000,000 feet daily before the end of 1929.

This places the gas area of the field on a par with the oil area in regard to an income-producing basis, because with an estimated 20-year reserve the increase of gas consumption will make it a very profitable proposition.

The gas commands a price of from 3 to 5 cents per 1,000 feet at the casing head.

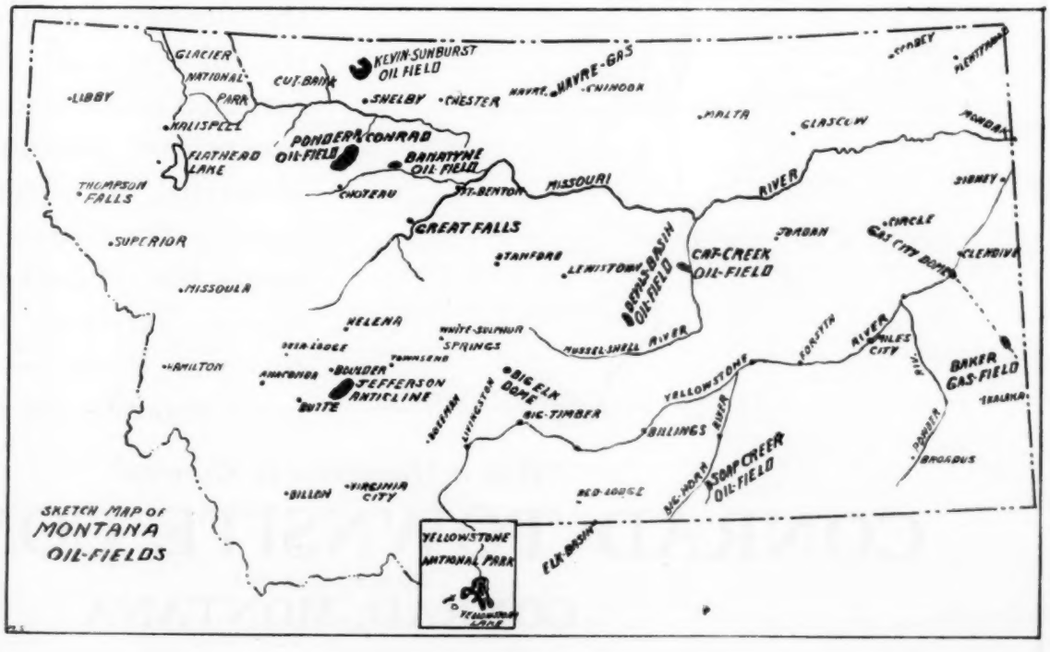
In developing the present volume of above 200,000,000 feet daily only a small portion of the entire gas area has been drilled, with the result that the estimated life of the field (20 years) is easily within reason.

Developing Cost

Drilling conditions are ideal in the major portion of the field. Some wells have been drilled to the Ellis sand without a joint of pipe being put in the hole. This is not general, as usually there is more or less surface water which must be shut off with either 10 or 8-inch conductor pipe.

In July, 1926, the United States Geological Survey, ruled that the Sunburst sand (if gas was not used) must be protected by mudding in the 6-inch oil string on all government permits. It would be much less expensive if the conductor pipe was left in the hole, and a good shoulder left for a casing point above the Ellis sand. This should be sufficient for all 1,450 to 1,500-foot holes, as no water is encountered below the surface water. In deeper holes, where water is found from 850 to 1,000 feet, the 8-inch string could be left in the hole.

(Continued on Page M-20)



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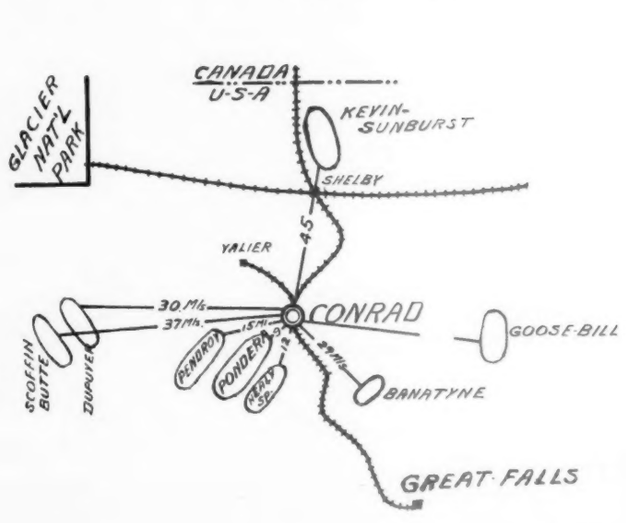

is the most logical and central city for the business activities and home-life of the oil operators and their employees. Situated in the midst of one of the most prosperous farming communities in Montana, it offers every appreciable facility for convenient and economic home life. Good schools, sewer, electricity, excellent water and modern business houses—coupled with civic pride makes it the ideal oil city.

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Montana Refining Industry Expands

Seventeen Companies Manufacture Gasoline and Other Petroleum Products. Supply Almost Equals Demand

By C. O. Willson

Montana in the near future will become one of the few states whose refinery output of gasoline will be sufficient to supply the demand within the State. This situation, in fact, will develop during the coming winter when consumption declines, provided the present refinery output is maintained.

With a daily crude oil production of approximately 10,000 bbls., all of which can be classed as settled production, the State has the raw material necessary to assure this independence in regard to gasoline supply. With a well balanced skimming and cracking operation, the refining industry, with this raw material, would be able to supply not only the State of Montana but would be able to ship small quantities of gasoline to adjoining states and Canada. At present, only one refinery—The Arro Oil & Refining Co. at Lewistown—has cracking equipment.

In the accompanying tables, which are based on data officially compiled by the State, the Montana refinery and gasoline marketing situation is summarized for the first six months of 1928.

Montana, the first six months of 1928, consumed 29,250,352 gallons of gasoline, according to reports made in connection with the collection of the State's 3-cent gasoline tax. A little over half of this gasoline was furnished (Table 1) by refineries located in the State, and the remainder imported from Wyoming refineries. Due to the size of the State and the fact that the bulk of the crude oil production is located in the extreme northern part, there is a rail transportation situation in which it is cheaper to ship gasoline to the southern part of the State from Wyoming refineries than it is from Montana plants. The freight rate from some of the Montana refineries is less to adjoining states and Canada than it is to some Montana points, and this is responsible for the fact that part of the State's gasoline is exported (Table 3).

Montana Refineries

Table 1 gives a list of seventeen companies which refined gasoline and sold it within the State the first six months of 1928. It will be noted that the output of some of the companies is so small that it has little significance in the State's markets. For instance, the Ohio Oil Co., which does not have a permanent refinery, is credited with a gasoline production of 16,416 gallons for the six-month period. This is at the rate of 80 gallons daily, which is sufficient to take care of the requirements of 30 or 40 cars.

Several of the other companies operate small topping or skimming plants at points long distant from the fields, the crude oil being brought to the refineries by tank cars. This applies to the plants located at Butte, Kalispell and Missoula. In these cases the owners generally restrict their operations so that they only have sufficient gasoline for tank wagon delivery near the plants. In a few cases these small plants are shut down during the winter months when Montana gasoline consumption is low due to cold weather.

Airplane view of Sunburst Oil & Refining Co.'s refinery at Great Falls.

Texas Refinery

The largest refinery in the State is that of the International Refining Co., located at Sunburst. This company was taken over by the California Petroleum Corp. three years ago and became one of several refineries controlled by The Texas Corp. when the latter company purchased the California corporation during the past year. The Texas Company is enlarging its marketing facities in Montana and adjoining states, and the Sunburst refinery, which is being rebuilt, will be its source of gasoline supply in that section of the country. According to Table 1, the company's gasoline sales in Montana the second quarter of this year were approximately two and a half times as great as during the first quarter. In addition, the company sold approximately 1,500,000 gallons of gasoline outside the State during the first half of the year (Table 3).

The Texas Company interests have considerable production in the Sunburst Field, and this is connected by pipe line to the refinery. The plant is farthest north of all refineries in the United States, being only a few miles from the Canadian border, where The Texas Company is also expanding its marketing facilities.

Cat Creek Plants

Near the Cat Creek Field at Lewistown, two of the oldest refineries are located. That of the Lewistown Oil & Refining Co. is the second largest refinery in the State. The plant of the Arro Oil & Refining Co., located at Lewistown, was the fourth largest producer of gasoline during the second quarter of this year.

The crude oil of the Cat Creek Field has an exceptionally high gravity, tests showing as high as 50 per cent gasoline from natural distillation. There has been no large flush production in that area for several years, and the two refineries are restricted to the available settled production. During the large flush production period of the Sunburst Field two and three years ago, some crude oil and tops were brought from Sunburst to the Lewistown refineries by tank cars.

Some of the smaller plants in the State at present are being operated with tops rather than crude oil. The tops are purchased from the refineries operating near the fields and are then finished at the small local plants. These tops contain a large percentage of gasoline and the remainder is sold as distillate or kerosene. Due to the wide use of tractors in farm work and the fact that electricity and gas are not available in the rural sections, there is a heavy demand for distillates and kerosene. The former is used as a motor fuel in the operation of the tractors. In some sections of the State the combined distillate and kerosene demand exceeds that of gasoline.

Sunburst Refineries

Sunburst crude oil, which constitutes approximately 75 per cent of the available supply, varies in gravity, with an average around 33 degrees A.P.I. The crude oil has objectionable sulphur compounds, and in the early history of the field some trouble was experienced in securing gasoline and kerosene meeting commercial specifications. Corrosion of equipment was also a problem. These difficulties have been largely overcome. The yields obtainable are indicated in the accompanying government tests.

Portable Refinery

At Shelby a unique refinery has been in operation for the past two years. The plant is portable, the distilling, fractionating and condensing equipment being mounted on flat cars. The plant, which is leased by the Shelby Pipe Line & Refining Co., was rushed to its present location during the flush period of Sunburst Field development when the output exceeded 40,000 bbls. of crude oil daily.

Oil is supplied the refinery by the Illinois Pipe Line Co., the largest purchaser of crude oil in the field. The refinery has a rated capacity of 2,000 bbls. daily and supplies a large local trade in the vicinity of Shelby.

At Great Falls the Sunburst Refining

(Continued on Page M-20)

TABLE 1—GASOLINE REFINED AND SOLD IN THE STATE OF MONTANA DURING THE TWO QUARTERS ENDED JUNE 30, 1928. (Data given in gallons.)

	First quarter	Second quarter	Total
Arro Oil & Refining Co., Lewistown	183,977	584,487	768,464
Bluebird Oil & Refining Co., Butte	74,151	270,730	344,881
Big West Oil Co., Kevin	33,173	62,977	96,150
Hart Refineries, Missoula	158,376	173,711	332,081
International Refining Co., Sunburst	1,915,101	4,738,976	6,654,077
Lewistown Oil & Refining Co., Lewistown	1,877,536	2,740,845	4,618,381
Milk River Refinery	13,699	22,418	36,117
Mitchell, A. B.	.....	10,409	10,409
Ohio Oil Co., Shelby	6,659	9,757	16,416
Reliance Refining Co., Kalispell	123,142	34,833	157,975
Russell Oil Co., Butte	22,300	72,378	94,678
Shelby Pipe Line & Refining Co., Shelby	72,306	106,477	178,783
Silver Bow Refining Co., Butte	68,374	117,753	186,127
Snow Cap Oil Co., Sunburst	17,638	23,399	41,037
Sunburst Refining Co., Great Falls	514,036	433,538	947,574
Toole County Refining Co., Belmont	74,724	114,384	189,108
Yale Oil Corp., Miles City	316,177	730,445	1,046,622
Total	.....	.....	15,718,880

TABLE 2—GASOLINE IMPORTED IN THE STATE OF MONTANA FOR THE TWO QUARTERS ENDED JUNE 30, 1928. (Data given in gallons.)

	First quarter	Second quarter	Total
Continental Oil Co.	1,485,811	4,167,889	5,653,700
Foss Implement & Oil Co.	5,165	28,657	33,822
Hart Refineries	16,598	24,247	40,845
Hughes Oil Co.	972,067	2,377,973	3,350,040
International Oil Co.	80	.....	80
Lewistown Oil & Refining Co.	146,101	533,712	679,813
McCullough & Cheney	.....	27,000	27,000
Puritan Oil Co.	14,595	12,289	26,884
Reliance Refining Co.	2,430	13,034	15,464
Silver Bow Refining Co.	16,327	.....	16,327
Shelby Pipe Line & Refining Co.	.....	24,484	24,484
Snow Cap Oil Co.	.....	16,601	16,601
State Lumber Co.	580	1,360	1,940
Sunburst Refining Co.	122,947	604,798	727,745
The Texas Company	996,920	1,528,314	2,525,234
Westland Oil Co.	36,191	54,286	90,477
White Eagle Oil & Refining Co.	24,466	40,415	64,881
Yale Oil Corp.	57,662	178,473	236,135
Total	.....	.....	13,531,472

TABLE 3—GASOLINE EXPORTED IN THE STATE OF MONTANA FOR THE TWO QUARTERS ENDED JUNE 30, 1928. (Data given in gallons.)

Arro Oil & Refining Co.	16,189
Big West Oil Co.	32,389
International Refining Co.	1,489,852
Toole County Refining Co.	59
Total	1,538,489

CHARACTERISTICS OF MONTANA CRUDE AS REPORTED BY BUREAU OF MINES

Tests on Crude

Field—	Average gravity A.P.I.	Viscosity at 70° F.	Per cent sulphur	Base
Cat Creek	50.9	..	.33	Paraffin
Cat Creek	50.1	..	.35	Paraffin
Kevin-Sunburst	31.9	67	1.47	Intermediate
Kevin-Sunburst	33.6	58	1.35	Intermediate

Yields From Refining (Skimming Operation)

Field—	Per cent gasoline and naphtha	Per cent kerosene	Per cent gas oil	Per cent lubricants	Per cent residuum
Cat Creek	60.1	25.9	..	..	11.0
Cat Creek	60.7	27.4	..	..	8.9
Kevin-Sunburst	21.6	4.5	19.3	23.0	28.6
Kevin-Sunburst	24.0	9.4	16.1	22.2	25.3

Aeroplane view of Billings Mont.
One of Conrad's principal streets.
First Ave., Billings
Shelby, Montana.
Main St., Shelby.
St. Helena Cathedral, Helena.
Central Ave., Great Falls.
Algeria Shrine Temple, Helena.
Business District - Great Falls.

Extra-High Gravity of Cat Creek Oil

Crude Has Had an Average Naphtha Content of 55.8 Per Cent, But Some of It Showed a 64 Per Cent Content

The Cat Creek Field in Fergus County which produces a higher grade crude oil than most of the fields in the United States was opened in February, 1920. This was five years after the first discovery of oil in commercial quantity in Montana, which was made in Elk Basin, Carbon County, just over the Wyoming line. The Elk Basin Pool lies mostly in Wyoming and the opening of the field occurred on the Wyoming side, followed some time later by the discovery in Carbon County. It was four years after this that oil was discovered in Devil's Basin, Mussellshell County, late in the year 1919. This was a heavy crude, and while a commercial oil, the pool was unfavorably located for marketing it and it has never cut much figure in Montana's oil history. The following year—in fact about three months later, Frank Frantz and others made their sensational discovery of high-grade oil in the Cat Creek area and this marked the real beginning of oil production in Montana and caused a rush to that State where many favorable looking structures were known to exist and a heavy wildcat campaign, widely scattered through the State was started.

High in Naphtha Content

A number of samples of the crude taken from as many wells showed an average gravity of 47.4, a naphtha content of 56.8 per cent; kerosene content, 29.6 per cent; wax distillate, 10 per cent; fuel oil, 1.6 per cent; sulphur, 1.0 per cent. The oil runs as high as 54 gravity and the naphtha content runs as high as 64 per cent.

The field produced up to the close of 1927 a total of 10,175,862.61 bbls. valued at $16,979,851.38, according to figures published by the State of Montana. This production and its value were divided by years as follows:

CAT CREEK PRODUCTION BY YEARS

	No. of producing wells	No. of bbls. produced	Value
1921	56	1,350,528.91	$2,085,296.97
1922	97	2,201,917.04	3,366,529.58
1923	141	2,080,826.12	3,360,785.79
1924	179	1,529,202.19	2,439,277.76
1925	186	1,234,456.28	2,419,125.79
1926	164	1,003,233.00	2,163,659.00
1927	164	775,699.07	1,145,166.49
Total 7 years		10,175,862.61	$16,979,851.38
Average production per well, bbls.		62,047	
Average price per bbl.			$1.68

From January 1 to September 1 of this year the field produced 422,372 bbls., making the total production from January 1, 1921, to September 1, 1928, 10,598,235 bbls.

Lies in Two Townships

The Cat Creek Field was opened by Frank Frantz and others on February 19, 1920, by the drilling of a 50-bbl. well in SW cor. SE NW, Section 21-15n-30e. It is made up of three noncontiguous pools, the east and west domes and the west extension in Township 15, Ranges 29 and 30. The first well was drilled on a minor structure of the Cat Creek anticline known as the Mosby Dome. According to J. P. Rowe, professor of geology, Montana State University, the Cat Creek anticline extends northwest from Black Butte, an eastern laccolith mountain of the Judith Mountains to and beyond the Mussellshell River. Along the crest of the anticline are several upwarps or structural highs or domes. The easternmost of these upwarps has three minor structures or domes, known as the East Mosby, Mosby and West Mosby Domes. Following the discovery of oil on the Mosby Dome the West Mosby Dome was explored with the drill and proved to be the most prolific of the Cat Creek pays. The West Dome is located in Sections 9 to 14 inclusive in Township 15n-29e. Subsequent drilling of the other domes found in the district was not productive of oil.

The oil from the Cat Creek Field is run by pipe line to Winnett, Mont., where a loading rack was established early in the life of the field. The Midwest Refining Co. buys most of the oil and tank cars it to its refineries in other states.

The Cat Creek Field is producing around 1,630 bbls. per day at the present time.

Many Helped in Development

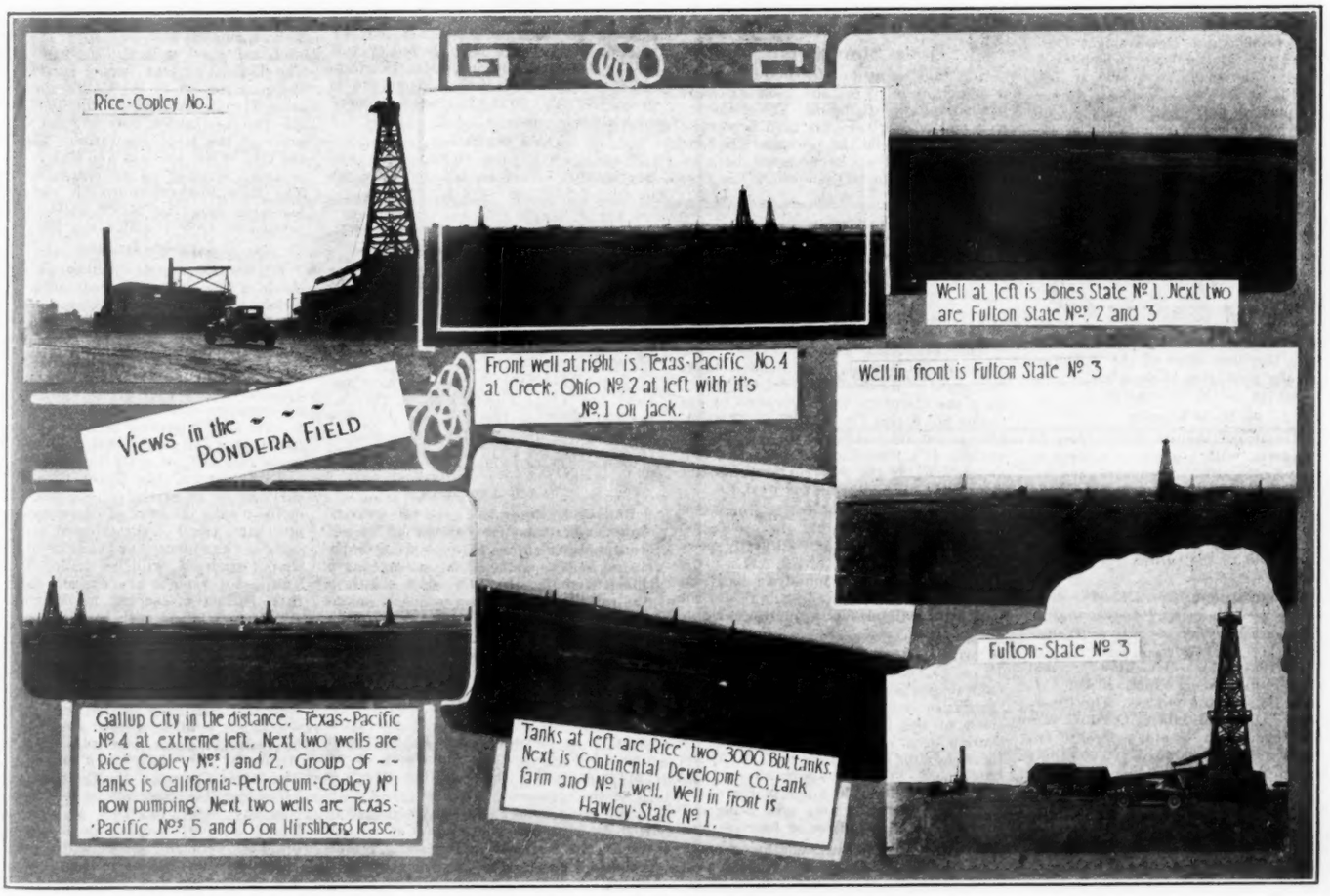
Some of the companies which operated in the Cat Creek Field in its heyday were the Frantz Corp., United Petroleum Co., West Dome Oil Co., Schaeffer Oil Co., Sterling Oil Co., Baker Syndicate, Flat Willow Oil Co., A. J. Jones, Big Six Oil Co., Logan Corp., Big Lehman Oil Co., Round Up Drillers Co., Edwards Syndicate, J. F. McCarthy, Lewis Development Co., Great Western Oil Co., Fifty-Six Oil Co., Twin States Oil Co., Mondak Co., MacDonald Syndicate, White Oil Corp., Midnorthern Oil Co., United Petroleum Co., Montacal Oil Co., Ad Absoroka Oil Development Co., Homestake Oil Co., Silver Bow Tri City Oil Co., Helena-Cat Creek Oil Co., General Petroleum Corp., Shaffer Oil & Refining Co., Sure Shot Oil Co., Cat Creek Center Oil Co., Mosby Dome Syndicate, Montana Syndicate, Thermopolis-Cat Creek Oil Co., Ten Spot Syndicate, Zinc City Oil & Refining Co., Unit Oil Corp., Bragg & Johnston, Wharton Rose Syndicate, Lucky Strike Oil Co., and others. Some of these above operators wildcatted around the proven pools in an endeavor to discover extensions.

PORCUPINE DOME NOT BEEN DRILLED DEEP

Unique in that it has had six wells drilled on it, none of which have gone deep enough to test formations found productive on adjoining structures in Wyoming, Porcupine Dome in southern Montana is scheduled for testing shortly. The structure is about 29 miles due north of Forsyth, on the Northern Pacific Railway. The deepest well so far drilled on it reached only to the Ellis formation, at 2,242 feet. It left untested the Quadrant, containing Pottsville, Chester and Amsden beds, with the Tensleep sandstone series in this same formation. While the entire closure of this dome has not been mapped, it is definitely known to be more than 1,000 feet, a conclusion borne out by drilling of the shallow tests.

BAKER-GLENDIVE GAS

Though comparatively isolated by reason of their distance from cities of any size, outlet is fast being found for gas from the extensive Baker-Glendive fields in the extreme eastern portion of Montana, in the central portion of the State adjoining the North Dakota line. Through recent completion of a gas pipe line into South Dakota, 184 miles in length, these fields are now supplying larger cities in the central portion of the State and may be extended further east as further development of reserves warrants.


Rice-Copley No.1
Well at left is Jones State № 1. Next two are Fulton State №s. 2 and 3
Front well at right is Texas-Pacific No. 4 at Creek. Ohio № 2 at left with it's № 1 on jack.
Well in front is Fulton State № 3
Views in the PONDERA FIELD
Fulton-State № 3
Gallup City in the distance. Texas-Pacific № 4 at extreme left. Next two wells are Rice Copley №s 1 and 2. Group of -- tanks is California-Petroleum-Copley № 1 now pumping. Next two wells are Texas-Pacific №s. 5 and 6 on Hirshberg lease.
Tanks at left are Rice' two 3000 Bbl tanks. Next is Continental Developmt Co. tank farm and № 1 well. Well in front is Hawley-State № 1.

Pondera Montana's Most Active Field

New Field South of Conrad in Which Prominent Companies are Producing and Drilling Has Bright Prospects

By Fred C. Platt

Operations in the Pondera oil field, in Pondera County, 10 miles southwest of Conrad, have so increased during the last six weeks that development work now under way is virtually twice the volume of that in any other Montana field. Twenty-seven wells had been completed up to this writing, and 30 rigs are either being erected or making hole. Several fleets of trucks have been hauling material into the field and offset requirements, and other development now definitely announced will increase the total of completions to 100 considerably before the end of the year.

Of the 27 completions, 24 are commercial oil wells, one is a commercial gasser and the other two were dry. Ground now regarded by operators as conclusively proved extends for a distance of 3 miles along a line running northeast and southwest for slightly more than 3 miles, while the width of the area between producing locations is approximately 1½ miles. Wells now drilling, if successful, will establish the producing area from southeast to northwest over a distance of exactly 4 miles.

At this writing the measured daily production of the 24 oil wells is 1,720 bbls., of which a considerable portion is the settled flow of wells completed from three to four months ago. The wells of the Continental Development Co. are fairly representative of the field's capabilities. Over a period of 156 well days, three Continental wells have averaged 112 bbls. daily, natural flow. On these wells the gas pressure is held down to 50 pounds and the production is continuing with little apparent variance.

The largest well thus far completed was the Continental Development Co.'s No. 4, on the Gjullin lease, which came in with an initial flow of 400 to 500 bbls. This well was completed August 31 and now is putting 200 bbls. of oil into tankage daily. Virtually all of the flush production flows off from the Pondera wells in the first two or three days. Thereafter the production "curve" is an approximate straight line.

The Pondera production is from a white member at the immediate top of the Madison limestone, reached at depths varying from 1,922 feet to 2,079 feet. The producing formation has a porosity determined in some instances to be as much as 52 per cent, ranging from there down to 27 per cent. It immediately underlies the black lime of the Ellis formation, the producing horizon being commonly known as the "contact."

34 to 37 Gravity

The gravity of the oil varies from 34 to 37 degrees, with a gasoline content of 23.93 and upwards. Producers are receiving $2 at the railroad here for 34 gravity oil, the Maple Leaf refinery at Coutts, Alberta, being the principal purchaser. The pipe line carrying charge from the field to the railroad is 15 cents a barrel.

Eleven operating concerns are the principal acreage owners in Pondera and of these 10 are carrying on active development work. The eleven companies are the Continental Development Co., Ohio Oil Co., Texas Pacific Coal & Oil Co., Rice Oil Co., Fulton Oil Co., The Texas Company, Dakota-Montana Oil Co., McCracken syndicate, Montana Pacific Oil Co., Jones Oil Co. and J. W. Elliott Drilling Co.

Opened in June, 1927

The discovery well was completed in June, 1927, by the Montana Pacific and because of litigation involving the title to the 80-acre tract on which it is located has never been produced. Between the date of the completion of the discovery and the drilling of the No. 2 nearly nine months elapsed. During that time the field went through the period of doubt and conflicting analyses, but with the completion of the second well, a 100-bbl. producer brought in by the Fulton company, development work rapidly increased and since then has steadily expanded, until there now are 30 active locations in the field.

Southeast to Northwest

It is the opinion of E. Byers Emrick, geologist who discovered the field, that the main axis of the Pondera oil area extends from southeast to northwest across near the center of the present producing territory. Wells now drilling, on the southeast, by the Hill-O'Neil group, and on the northwest by the Dakota-Montana will shortly determine the accuracy of this conclusion. Both of these wells are now down to depths that make possible correlation with a considerable degree of accuracy and the logs are indicating that the geologist's opinion will be confirmed.

Mr. Emrick first became interested in the Pondera area in 1922, when he was a member of the geological staff of one of the big operating companies. His company failing to drill a test on the structure, he resigned his position and with M. S. Darling, geologist and engineer of this city, started a further systematic study of the territory. The first test drilled on their recommendation was put down in 1926, several miles west of the present field, but at this location only residuary oil was found. With information gained from the drilling of this well Mr. Emrick spotted the location which in 1927 became the discovery.

Gas Above the Oil

Gas, ranging up to 3,500,000 feet daily, is found in many of the Pondera wells immediately above the oil. The discovery well had a rock pressure of 575 pounds, but in other wells the pressure has been much greater. Tests have shown the pressure to mount to 100 pounds in the first minute and to 530 pounds in 12 minutes, but beyond that figure it has not been measured because of lack of adequate control equipment.

The oil-producing formation has been penetrated to a depth of 42 feet in different wells. A test of the entire thickness still remains to be made. The white, porous lime in which the oil is found has a slight sand content. Where the gas is present it has proved itself to be relatively permanent. The well on which the most severe test has been made, one of the Continental Oil Co.'s now is furnishing fuel for several boilers, and the rate of decline has been comparatively small.

The largest water content found in any of the Pondera oil wells to date has been 2 per cent. Most of the wells show no water at all, but where it is present pipe line requirements compel the operators to dehydrate down to a maximum of one-half of 1 per cent. The largest sulphur content yet found in any of the wells is less than 2 per cent.

Varied Power

Three forms of power are being used in the field. Many of the rigs are powered with steam boilers, with oil or natural gas available as fuel. Several rigs are equipped with gasoline engines and others are using electric power. The high tension line of the Montana Power Co. serving this section of the State has been tapped near Conrad and a network of extensions are now being constructed through the field.

Thus far electric power is being used to a greater extent in pumping than by the drilling rigs, but additional electrical equipment is being brought into the field daily. Operators forecast that by the end of the next year electricity will be the principal power used in Pondera. Most of the water used in the field is procured from two shallow wells, pumped with electric power.

New Oil Towns

Two small towns, Gallop City and Bartlesville, have been established in the field and a post office will be established at one or both of these places within a short time. At Gallop City construction is under way for the launching of a machine shop. Both of the towns have electric lights, sewer and water facilities and most of the other modern conveniences. Different of the operating camps in the field also have electric current, sewer and a water supply.

Largest Lease Owners

One of the largest blocks of acreage held in Pondera is owned by the Montana Pacific Oil Co., organized by Charles A. Mau of San Francisco and Ralph Arnold of Los Angeles, consulting geologist, as a holding company for properties developed on Arnold's recommendation. Arnold concurred with E. B. Emrick in recommending that the initial test in the present producing territory be drilled. With the exception of 280 acres being developed by the Rice Oil Co., all of the Montana Pacific land is idle as a consequence of litigation brought by the Nevada Investment Co., headed by H. B. Chessher of San Francisco. The Nevada company, in a suit brought in the Federal Court at Great Falls, is demanding that a receiver be named to take charge of the Montana Pacific properties. The receivership suit will be heard October 15 at Great Falls.

Mr. Chessher is also head of the Continental Development Co., which to date is the largest operator in Pondera. Chessher is testing the Pendroy structure, some 5 miles northwest of Pondera, and also is interested in oil enterprises in different parts of the State.

The Texas-Pacific Coal & Oil Co. was one of the early entrants in Pondera. This company now has four producing wells and three wells drilling in the field. The Texas Company, which succeeded to the management of the California Petroleum Corp.'s interest in the field when the two companies were merged, is another of the larger operators. The Rice Oil Co., owned by local and Chicago men, is also operating on an extensive scale. The Rice company now has nearly 20 locations requiring offset wells on land taken over from the Montana Pacific.

Outside Drilling

Exploration has been going on during much of the season in areas adjacent to Pondera and the usual amount of drilling is being done around the approximate edges of the field. A short distance to the southeast, in the Healy Springs area, two wells have been drilled this summer, both being dry. But some of the larger concerns are making an exhaustive examination of this general territory and it is likely that an additional test will be made this fall, or early in the spring.

To the south, The Texas Company is carrying on an extensive program of core drilling with the idea of determining the structural trend of the affected area. No definite announcement has been made that test wells will be drilled by the Texas, but reports are current that the core drilling is tending to determine a satisfactory structural condition in the area some miles south of Pondera.

Pipe Line Facilities

The pipe line serving the Pondera Field is operated by the Thurber Pipe Line Co., subsidiary of the Texas-Pacific, which has built a railroad spur and now is erecting tankage near its loading rack. Rights of way have been procured by The Texas Company, the Continental Development Co. and at least one other company with interests in the field. Three supply houses have opened branches here and stores will shortly be operated in addition to the pipe racks and warehouses now being conducted.

BANNATYNE FIELD ONLY AWAITS PIPE LINE TO RESUME ACTIVITY

By Fred C. Platt

Nine producing wells have been completed in the Bannatyne oil field, 40 miles northwest of Great Falls, Fergus County, since the discovery was completed by the Genou Oil & Gas Co. in July, 1927. Operations now are being held up to an extent by lack of a pipe line, but plans are now under way for the construction of a line into Collins, 7 miles to the west.

The Bannatyne Field differs from other Montana oil areas in that the production is from a genuine sand, uniformly present with a thickness of 72 feet. Little or no gas has been found at locations thus far drilled, the wells going onto the pump immediately following completion.

Bannatyne production has been comparatively small, the wells producing from 15 to 30 bbls. daily on the pump. The first production was found on what has since been determined to be the southeast flank of the field, and a northwest extention of a mile was a month ago determined by a well drilled by C. L. Archer of Chicago. The field is somewhat smaller than the Pondera, 30 miles to the northwest, the producing area now being outlined as embracing three or four sections.

The field extends in a southwest-northeast direction, the crest conforming almost exactly with a topographical "high" running through the field. Acreage in the field is principally owned by the Montana Pacific Oil Co., The Texas Company, the Texas Pacific Coal & Oil Co., the Genou Oil & Gas Co., the Fifty-Six Petroleum, Elliott Drilling Co., Fulton Oil Co., Hardrock Oil Co. and a number of individuals.

Steady Producers

Bannatyne crude has a Baume gravity of 28 and a gasoline content of 24 per cent plus, according to analysis recently made. Wells completed a year ago have shown virtually no decline since the flush was taken off, but to maintain the maximum production it is necessary to clean the wells at frequent intervals. The producing sand is given to caving and considerable cleaning out is necessary after shooting.

A water intrusion ranging from a small percentage to 20 per cent of the gross is found in the wells along the southeast flank, but the amount diminishes as an approach to the "high" of the structure is made.

The Bannatyne Field was discovered in 1926 by E. Byers Emrick of Conrad and the initial test was drilled on a recommendation made by Mr. Emrick and Ralph Arnold of Los Angeles.

OVER A TRILLION CUBIC FEET OF NATURAL GAS LIES UNDEVELOPED

Montana has been given a potential capacity of 1,325,000,000,000 feet of natural gas from nine fields as follows:

	Feet
Sunburst Field	200,000,000,000
Grandview Field	365,000,000,000
Bingham or Reserve Field	124,000,000,000
Flat Coulee Dome	100,000,000,000
Pinhorn Dome	294,000,000,000
Bears Den structure	52,000,000,000
Government Creek structure	74,000,000,000
Strode structure	52,000,000,000
Utopia Dome	74,000,000,000

Thus far the distillation of gas has not been great. A vast store of it lies buried awaiting markets.

The city of Billings pipes its natural gas about 68 miles and sells it for 50 cents per 1,000 feet as against $2.20 per 1,000 feet paid by residents of Missoula for manufactured gas. A dozen Montana cities are provided with natural gas for fuel.

In the course of a report by J. P. Rowe, professor of geology, State University, some of the cities of the State provided with gas are listed as follows:

Glendive—Gas was discovered and used in this city for the first time in 1913. Glendive also has the distinction of being the first city in Montana to use commercially natural gas. The wells are on the northern end of the Cedar Creek anticline. One or two steps have been taken to pipe the gas from Glendive to Sidney and then to Williston, N. Dak., but nothing definite has as yet been done.

Baker—The gas field located in the vicinity of Baker is called the Glendive-Baker structure, and consists of a series of six domes starting at a point about 9 miles south of Glendive and running to a point about 30 miles south of Baker, or a total distance of about 65 miles. This field is recognized as one of the largest existing natural gas fields in the United States.

Gas was first discovered at Baker about 15 years ago when it was encountered in the drilling of a water well near there. Since its discovery the residents of Baker have been using natural gas and the Carbon Black Co. was erected at Baker and has been using the gas at the rate of 4,000,000 feet per day for the past 13 years.

The development of the gas field by the Minnesota Northern Power Co. started two years ago and most of the drilling to date has been on the Cabin Creek Dome which has produced the largest wells so far on the Glendive-Baker structure. The Minnesota Northern Power Co. now has 10 producing wells on the Cabin Creek Dome with an open flow capacity of over 100,000,000 feet. The Minnesota Northern Power Co. has also drilled two wells on the Hidden Water Dome in the vicinity of Marmarth, N. Dak., these wells being of smaller capacity than those of the Cabin Creek Dome.

The Johns-Hagen Co. has drilled several wells on the Ash Creek Dome and are continuing their drilling operations this year.

During the summer of 1926 the Minnesota Northern Power Co. built a 40-mile 8-inch pipe line from the Cabin Creek Dome into Glendive, Mont., and has been serving Glendive with natural gas service since that time, as well as using natural gas in the power plant of the Montana-Dakota Power Co., located at Glendive.

In the summer of 1927 an 8-inch pipe line was built from the Cabin Creek Dome through Terry, Mont., to Miles City and natural gas has been distributed in those two towns since the 15 of August, 1927. During the same summer a 4-inch pipe line was built from the Hidden Water Dome into Marmarth, N. Dak., where gas has been distributed since October, 1927.

The program of development for 1928 consists of a pipe line running south out of the field into the principal towns in the Black Hills of South Dakota. This line will be a 12-inch line and the towns to be served are Rapid City, Belle Fourche, Sturgis, Spearfish, Lead, Deadwood, Whitewood, Piedmont, Blackhawk, and Tilford. This work is now under way under the supervision of the Hope Engineering & Supply Co., and the main line is being laid at the present time at the rate of about 2 miles per day. The entire project to serve all the Hills towns will be completed by December 1. This development represents about 175 miles of main line and about 250 lines of distribution lines and an investment of about $3,000,000.

Upon completion of this year's project, gas will be distributed to a population of approximately 50,000 people. All of the distribution of natural gas from this field with the exception of the gas used at Baker, Mont., is distributed by the Minnesota Northern Power Co., and its subsidiaries, the Montana-Dakota Power Co. and the Black Hills Utilities Co.

The developments that the Minnesota Northern Power Co. and its subsidiaries have made in the vicinity of the gas field represent an investment of approximately $6,000,000 to date, and the developments in the next few years will probably double that amount.

Havre is the second city in the State to use natural gas. The gas comes from the Eagle sandstone or from the base of the Montana formation. Recently Havre was connected by a pipe line to the Bowes structure in Blaine County.

Shelby and several other small towns in the northern part of the State use natural gas supplied from wells in the Kevin-Sunburst Field. There are listed to date 105 producing gas wells in this field.

Great Falls is using gas piped from the Sunburst structure, which is in Township 32 north, Range 1 west.

KEVIN-SUNBURST RAPIDLY BECOMING ELECTRIFIED

In the spring of 1928, the Great Northern Utilities Co. of Shelby, Mont., built a 33,000-volt transmission line through the heart of the Kevin-Sunburst Field, and this line is now serving all towns in the field with 24-hour service for both lights and power.

The towns in the field are sufficiently well covered with lines to furnish all dwellings and industries within their limits with any type of electric service they might desire. In addition to this, the electric company has built 20 miles of 6,900-volt transmission lines through the field proper. These lines make electrical service available for pumping, lighting and dehydration.

These lines are all class A construction and have been built sufficiently rugged to withstand any strain that the elements might impose upon them. They have been built for permanence and with sufficient capacity to carry any load that might reasonably be expected to be put upon them within the next 20 years. The wires have large carrying capacity, the cross arms are extra heavy, the pins are all steel and the insulators have voltage ratings that give them a large safety factor. Transformers of sufficient size to handle any loads are installed, and ample protection from lightning has not been slighted. This type of construction with ample plant capacity behind the line and a system of patrolling all lines cannot help but give excellent service.

There are at this time nine leases in the field that have either started using some electric power or have contracted for power. These powers are of both the single pumper and group-drive types, and they are giving satisfaction to all using them, both as to service and costs. There are four camps that are either lighted at this time or are waiting until necessary construction work can be done to give the electric service for lighting.

It is a generally accepted fact that electrification of the Kevin-Sunburst Field is now well under way and requires only time for its completion.

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KEVIN-SUNBURST IS RICH IN OIL AND GAS

(Continued from Page M-7)

The average cost of drilling wells runs from $6,500 to $14,000 for turnkey jobs. Tool contracts cost from $2.50 to $3 per foot, and labor contracts $1 to $1.25 per foot.

In turnkey contracts the contractor furnishes everything and if the well proves to be dry, generally 50 per cent of the original cost of the pipe in the hole is refunded to the operator.

In tool contracts the contractor furnishes tools, labor, and boards the men.

In labor contracts the contractor furnishes labor only.

Water costs $15 per day per well when hauled from reservoirs, and $25 per day per well when taken from laid water line.

Gas is $15 per day per well. A field boiler uses approximately 50,000 cubic feet in 24 hours.

Drilling Operations

The general practice in the field is to start with either a 12 or 10-inch hole. Conductor pipe is then run at depths of about 200 feet to shut off surface water and the 10 or 8-inch hole is drilled to the top of the Ellis sand. In most instances the 10-inch hole is reduced at the top of the Sunburst sand, which allows the operators to run 8-inch pipe if commercial production is found there. About 50 to 100 feet above the Ellis sand, the 8-inch hole is reduced to 6 inches and after 6-inch pipe has been run, the well is drilled in.

The average drilling time is about 15 days, but a few wells have been drilled in 8½ days.

Should the well be dry it must be plugged under the supervision of the government or state representative, depending on whether it is located on government permit, state or deeded land.

In the past, cable tools with 5-inch rig irons, and 84-foot derricks has been the general method of drilling, for the nature of the terrain is such that the derricks can be skidded by tractors from one location to another at nominal cost.

Lately, the trend in the field has been more toward machines, such as the National and No. 28 Star, because these rigs can be skidded with foundation timbers complete, affecting a saving of $300 to $500 per well.

Steam drilling engines have been used almost exclusively, but the success of the gas and oil engines, during the past season, has brought these engines into favor with the operators.

Producing the Wells

There are three different methods used to produce the wells, namely; pumping on the beam, central power plants, individual powers.

All large initial production wells are pumped on the beam, after gas pressure decreases so they will not flow. As a general rule, settled wells of this nature make considerable water, making it necessary to handle a large amount of fluid. In order to do this successfully, oval gear pumping attachments are put on the beam, and 4-inch tubing run in the well. The capacity of the well is increased in this way to 1,700 bbls. of fluid per day. Fifteen of these attachments have been installed in the field, to date.

Seventy central pumping plants have been installed in the field. Each plant will pump all wells on that lease.

Where there is only one well on a lease and the operator does not care to go to the expense of installing a central power plant, the well is pumped with a gas or oil engine.

Dehydration Plants

Due to the presence of sulphur water, it is necessary to heat or steam nearly all Ellis sand oil, before it is accepted by the Illinois Pipe Line Co. for transportation.

The general method of steaming is to use 500 to 750-bbl. "knock-down" flow tanks for gun barrels, and 250 to 500-bbl. tanks for stock tanks. Steam coils are placed in both the gun barrel and stock tanks, and all tanks are housed together and completely, except for decks, thus saving considerable heat.

Because of severe weather conditions all flow lines must be buried.

Production

The production of the field increased from a few hundred barrels a day in 1922, to over 25,000 bbls. in July, 1926.

The following figures give a very good idea of the production by years:

	No. of oil wells completed	Bbls. produced
1922	26	51,220
1923	104	577,435
1924	80	1,370,590
1925	228	2,793,890
1926	229	6,528,668
1927	202	4,208,595
1928 (9 mo.)	63	2,486,289
Total		18,016,987

Gas

There were 97 commercial gas wells at the beginning of this year with an estimated initial capacity of 250,000.000 feet. Then there has been some 123,000,000 feet of gas developed in wells in which commercial oil production was found, making an estimated total of 373,000,000 feet.

As most of the gas found in commercial oil wells has either been cased off and lost, or else is used on leases for fuel, the 123,000,000 feet can not be counted on for domestic purposes, but there is available from 200,000,000 to 250,000,000 feet for the pipe line to Great Falls.

The following figures give a very good idea of the development by years:

Year—	No. gas wells	Est. initial produced M cu.ft.	Est. gas in commercial oil wells M cu. ft.
1922	5	11–1/5	4–1/4
1923	6	22–2/5	15
1924	4	13	32–3/4
1925	15	43	35–3/4
1926	33	101	26–1/2
1927	34	159	9
Total	97	349–3/5	123–1/4

MONTANA REFINING INDUSTRY EXPANDS

(Continued from Page M-9)

Co. operates one of the largest plants in the State. Crude oil is brought to the refinery by tank car from the Sunburst Field. The Yale Oil Corp. at Miles City operates on a similar basis. The latter company is affiliated with the Yale Oil Corp. of Oklahoma, operating a refinery at Yale, Okla. The Yale company is the third largest refiner of gasoline in the State.

Imported Gasoline

Table 2 gives a list of refiners and jobbers importing gasoline into Montana. As previously explained, in some parts of the State it is cheaper to buy gasoline from Wyoming refineries than it is from plants located in the State, due to the difference in rail rates. The Texas Company has a refinery at Casper, Wyo., and the company shipped 2,500,000 gallons of gasoline from this plant the first half of 1928 to serve its Montana trade. The Lewistown Oil & Refining Co. and the Sunburst Refining Co. were among the other Montana refineries which supplied part of Interstate trade by buying supplies from outside refineries.

The Continental Oil Co., which in the past has been the largest distributor in the State, is also the largest importer of gasoline. The company has a 10,000-bbl. refinery at Glenrock, Wyo., from which it obtains its imported gasoline. The company imported over 4,000,000 gallons the second quarter of 1928.

The Continental, up until the past year, was the only representative of the old Standard group which distributed in Montana. During the past year, however, the Midwest Refining Co. (Standard Oil Co. of Indiana) purchased the Hughes Oil Co., an independent jobbing concern, and the company has already become an important factor in Montana marketing. The Midwest company has three large refineries at Casper, Greybull and Laramie, Wyo., as a source of supply. The company expects to develop a distribution which will cover the entire State.

Future Market

The Montana consumption of gasoline and other products is rapidly increasing. The increase for the first six months of this year over the same period of 1927 totaled approximately 9,500,000 gallons. This was a percentage increase of 47 per cent, the largest of any state.

Its demands of the remaining products exceeds the supply. At present there are no lubricating oil plant manufacturing lubs from Montana crude oils. The railroads readily absorb all the available fuel oil and have indicated they would use much larger quantities when available.

LITTLE YET KNOWN OF BURIED TREASURES OF SWEETGRASS ARCH

By E. B. Emrick

The Sweetgrass arch in Montana is an extensive upfold, extending throughout North Central Montana from a few miles south of the Trenton River and crossing the International boundary in the vicinity of the Sweetgrass Hills. The axis is generally parallel to the Rocky Mountains and lies about 60 miles to the east on the plains area. The foothills comprise a narrow belt between the arch and the mountain range. In this area the formations were sharply folded and frequently faulted at the time of the great mountain uplift probably at the close of the Cretaceous epoch. This belt, which begins at the mountain front, has an average width of about 8 miles, having a maximum width of about 20 miles in the Blackfeet Indian Reservation and in the Canadian foothills. The Lewis and Clark overthrust has pushed Cambrian rocks out across the Cretaceous for a distance of at least 40 miles; therefore the structural condition of the belt occupies a much greater width than is indicated by the surface rocks.

A number of seepages occur in this district, extending from rocks as old as Cambrian and as young as Cretaceous. The stresses that produced the folding of the arch probably came largely from the west. The arch is assymetric with its shorter and steeper limb west of the axis. The formations at the south end of the arch rise very rapidly on a monocline resting on the Belt Mountains.

There is a notable contrast between the area of intense folding and faulting and the nearly horizontal rocks of the arch. The beds on the crest seem to lie practically horizontal but upon detail survey they are found to be gently folded into local domes and anticlines superimposed upon the great uplift. The westward dip of the strata ranges from one-half degree to 12 degrees, but generally the dip is from 1 to 2 degrees. This dip continues to the edge of the disturbed belt or for a distance of about 50 miles from the axis. It is abruptly terminated by steep reverse dips at the eastern edge of the sharply folded belt. The regional dip of the eastern flank is about one-half degree and extends for a distance of about 75 miles from the axis. North from the Kevin-Sunburst Field the great uplift pitches slightly, bringing rocks of the Montana group over the crest.

The southern end of the arch remains somewhat of a mystery. It lies in the terminal moraine of the Keewatin glacier and is covered by a great thickness of Moraine drift. It is impossible to locate the syncline between the Belt Mountain monocline and the arch, but from the meager evidence obtained from well logs and surface exposures it lies somewhere between the Teton River and the Teton Ridge. It is not believed that this syncline is very pronounced and there is a possibility that the horizontal rocks along the axis gradually blend into the monocline. There are numerous faults in this area, probably caused by torsional movements in the development of Bearpaw, Highwood and Belt Mountains, as well as those caused by the development of the arch.

Kevin-Sunburst Field

This field, according to A. J. Collier of the United States Geological Survey, incorporates 58,000 acres in which oil has been developed and an additional 50,000 acres of producing area yielding gas and some showings of oil. Production is not continuous over this vast area, which includes a total equal to practically all of the producing oil lands in the State of California.

There are a series of localized pools. The principal pools at present number 10. In the central location of the largest pools, 5,000 to 8,000-bbl. wells are frequently found and an occasional gusher with a flush production as large as 20,000 bbls. is struck.

Pondera Field

The Pondera Field is located in Township 27n, Range 4w. Production comes from the Ellis-Montana contact, from a 12-foot strata that is highly porous, in some portions containing voids as high as 50 per cent. The oil is from 32 to 35 degrees gravity, of mixed asphalt-paraffin base, with less than 1 per cent sulphur.

Bannatyne Field

This field embraces parts of Townships 25 and 26n, Ranges 1w and 1e. The structure is that of an antihomocline or monoclinal flexure. The production comes from a 70-foot sand lying in the Ellis formation known as the Emrick sand, which is reached at 1,450 feet. No wells have been drilled upon the top of the structure since the initial wells were completed, however, the Genou Oil & Gas Co. has started drilling 13 wells.

Pendroy

The Pendroy structure is located west of the Pondera Field in Township 27n, Range 6w. It is a decidedly assymetric and intensely faulted anticline and is structurally higher than either the Pondera or Healy Springs structures. A test well drilled on this structure by the Continental Development Co. produced 12 bbls. of oil daily for about three weeks, though 50 feet structurally low. Another well is now drilling, higher on structure.

Conrad-Butte

The Conrad-Butte structure embraces parts of Townships 28, 29 and 30n, Ranges 1e and 1w. A test well drilled on this structure by W. S. Hawley, proved the geological structure, but the well did not strike sufficient oil to make it a commercial producer. Mr. Hawley has announced his intention of drilling another well.

Flat Coulee

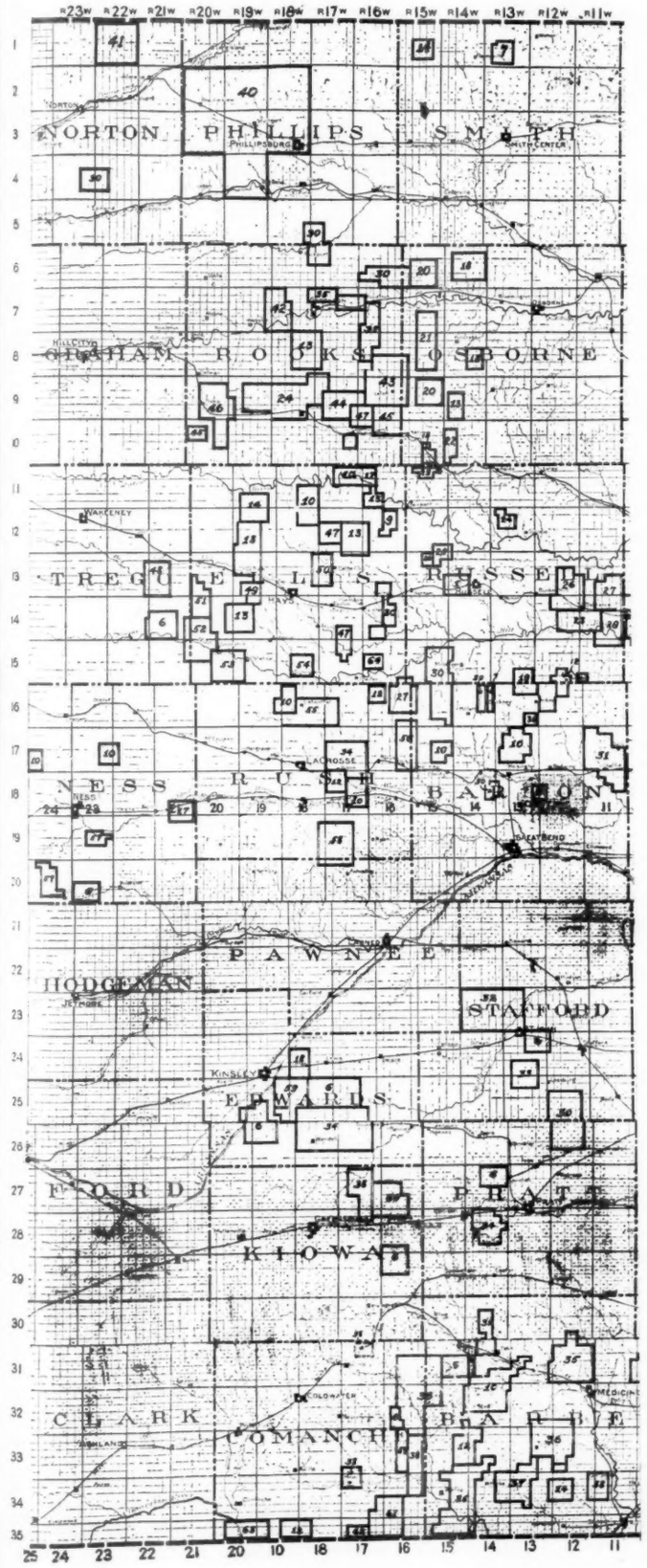
The Flat Coulee structure is located in Township 37n, Range 5e. This structure is located north of the East Butte in the Sweetgrass Hills area and only a few miles south of the Canadian border. Maj. G. G. Howard, who is the discoverer of this field, has spent several years studying the geology and making a detailed survey of the Sweetgrass Hills area and has mapped numerous structures. The geologic condition in this area makes this discovery very important and future development will no doubt prove it to be a large potential oil area.

We know very little about the elusive oil and its possibilities on the Sweetgrass arch. We are slowly learning more about the structural conditions, but we know very little definitely about the origin of the oil. We do not know whether or not the oil and gas produced from the Colorado shales, Kootenai and Ellis originates in these formations or finds its way into these horizons through faults or fissures and has its origin in the the Madison, Devonian, or older formations. No explanation has yet been given why the oil is perched on the north side of the Kevin Field and why it is apparently absent on the other flanks. I believe this is due to a faulted condition, porosity and local cementation, and that the source of the oil is other than from lateral migration.

LEASING ACTIVITY IN WESTERN KANSAS SHOWN BY BLOCKS TAKEN

The leasing activity which has been progressing in the part of Kansas more commonly known as the Great Plains is pictured on the map which accompanies this story. The map portrays a region which has been designated by the geologists as the Barton arch. This territory embraces some 12 counties in the northwestern part of the State, and for convenience the leasing activity is shown down as far south as the Oklahoma line.

The Barton arch proper covers Norton, Phillips, Smith, Graham, Rooks, Osborne, Trego, Ellis, Russell, Ness, Rush and Barton, and in these counties is found the heaviest lease play.



The work in this territory was originated in 1917 when surface geology was the only method used to work new country. The results of the early survey of 1917 caused some drilling which was unsuccessful. Since that time, the use of various geophysical instruments has caused this territory to be reworked, with the result that interest has again been crystalized, and a vast leasing campaign inaugurated.

The blocks of leases are outlined by double lines on the map. They have been marked out as accurately as the small scale of the map and the large region embraced would permit.

There is also much leasing activity in the region east of the Barton arch, and this activity was shown by a map which was published in The Oil and Gas Journal, August 16, 1928.

The blocks of leases are marked by double lines, and each bears a number. The numbers given below furnish the key to the ownership of the blocks:

1. Anderson and others, 2. M. M. Esty, 3. Wood and others, 4. W. C. Newman, 5. Galt-Brown Oil Co., 6. Amerada, 7. Roxana Petroleum Corp, 8. Henderson and others, 9. Davis & Hazlett, 10. Gypsy Oil Co., 11. Merrick and others, 12. Sinclair Oil & Gas Co., 13. Empire Oil & Refining Co., 14. Marland Production Co., 15. J. Burr Gibbons, 16. Ben Gurley, 17. Barnsdall Oil Co., 18. Mid-Kansas Oil & Gas Co., 19. Allison & Fitzwilliams, 20. Ebmeyer and others, 21. Tom C. Johnston, 22. Jarvis and others, 23. Joe Liggett, 24. Prairie Oil & Gas Co., 25. Stearns & Streeter, 26. Hartman & Skaer, 27. J. A. Brooks, 28. John B. Foster, 29. Douglas Oil Co., 30. Mid-West Exploration Co., 31. McJilton and others, 32. Kuhlman and others, 33. J. H. Crume, 34. M. M. Valerius, 35. Skelly Oil Co., 36. J. K. D. Shaffer, 37. Shaffer Oil & Refining Co., 38. Blackwell Oil & Gas Co., 39. Mid-Continent Petroleum Corp., 40. S. C. Hedrick, 41. Southwestern Petroleum Co., 42. T. E. Davis, 43. Vickers Petroleum Co., 44. Burford & Brimm, 45. Derby Oil Co., 46. Prairie States Oil Co., 47. Phillips Petroleum Co., 48. Central Commercial Oil Co., 49. Transcontinental Oil Co., 50. Brown and others, 51. J. H. Tatlock, 52. J. C. Lisonby, 53. Tinney and others, 54. Haynes and others, 55. Snyder and others, 56. Skelton and others, 57. The Texas Company, 58. Hopper and others, 59. White Eagle Oil & Refining, 60. H. F. Wilcox Oil & Gas Co., 61. Independent Oil & Gas, 62. Indian Territory Illuminating Oil Co., 63. T. B. Slick, Inc.

FLOODING TO BE TRIED IN CLARENDON FIELD

WARREN, Pa., Oct. 8.—Oil production flooding operations in the Clarendon Field await an imminent development that may raise a network of new derricks over the entire 10-mile square area within a year. A test shortly to be undertaken by outside interests is expected to determine whether the field can be profitably reworked by the water flooding method.

Authentic sources report that operations covering several hundred acres have been secured quietly. A "five spot" test is to be made on the property. Oil producers agree that success of the test will cause the second great oil boom in Warren County.

A group of Warren men are known to have an option on one lease, and it is rumored that the contract for actual transfer of the property has been signed. One of the conditions of the contract, it is said, is that the purchasers must drill four wells within a few weeks.

Approximate estimates of the present standing of the oil boom in the Clarendon Field include these features:

Actual transfer of 1,700 acres of oil lands.

Options secured on at least 1,500 additional acres.

Twelve strings of tools running, as against one or two strings two years ago.

Doubling of oil lease values.

Interests now drilling or about to begin operations include:

S. G. Perry and his son, J. B. Perry of Riley Pond, one-half mile south of Clarendon.

McCool Brothers at Stoneham.

A. W. Goal on the Goal farm at Beantown.

Six Mile Oil Co., successors to W. W. Winger estate, upper end of Clarendon borough.

Blanchard & Hughes at Tiona.

D. H. Culbertson and a group of oil men, on the line between the Six Mile Oil Co.'s lease and the Gardiner lease which the Culbertson group recently purchased. The lease is 1 mile from Tiona on Six Mile Run.

Fred Hughes and a small group of Warren men, on the Shamonski lease, 2 miles southwest of Clarendon, on Farnsworth Creek.

Francis Brothers, at Riley Pond, near where Mr. Perry and his son are working.

Keystone Production Corp., at Old Town, one-half mile south of Clarendon. Those interested in the corporation include G. M. Wykoff, E. J. Wykoff and K. M. Lyons.

One authority asked to estimate the probable recoverage, if the contemplated test proves successful, said that he guessed there would be a recovery of between 4,000 and 5,000 bbls. an acre. The same authority predicted that 80 new wells would be drilled in the Clarendon Field before the winter of 1930. All these estimates are dependent on the success of the test which it is expected will be made shortly, it was stated.

Briefly, the test will determine whether flooding can be profitably employed in the Clarendon Field. Flooding operations already in progress near Clarendon do not follow the "five spot" method used successfully in the Bradford Field during the last 20 years. The Clarendon Field method so far is similar in result, it is said, although not proved to a point that will attract a great amount of capital. Clarendon oil men are placing their wells on a line, or, in some cases, reversing the "five spot" method by sinking one water pressure well in the center of a square and four oil wells at each corner of the square.

The "five spot" method, so called, is the sinking of four water pressure wells at each corner of the square, and one oil well in the center. Water pumped into the outside wells forces the oil into the center well. In natural drilling, wells generally were placed approximately 400 feet apart in the Clarendon Field. When the flooding method is used, the wells are placed from 75 to 150 feet apart. Distances are said to vary with conditions.

Wells that have already been sunk go to a depth of from 1,000 to 1,600 feet.

Recent developments of flooding operations at Clarendon are believed to have begun when S. G. and J. B. Perry introduced water into an old hole at Riley Pond about a year ago.

Flooding brought production of this well from one-twelfth of a bbl. to 7 or 8 bbls. Satisfied that water flooding warranted further experiment, Mr. Perry and his son drilled a new well about 250 feet from the old well. First production of the new well was 18 bbls., later settling to 8 bbls., which it is producing at present.

Other men followed the Perrys' lead. The development grew quietly. At present, options in the Clarendon Field are hard to get.

NO TEAPOT DRAINAGE

WASHINGTON, D. C., Oct. 8.—So many versions in respect to alleged drainage of the Teapot Dome on Naval Reserve No. 3, Wyoming, have found their way into print that it becomes a matter of special interest, especially as neither the Navy Department nor any other branch of the government here has any information that there is any drainage from the reserve to outside offset wells. Nor has there been any such drainage since last December when the offset wells on the Naval Reserve were shut down.

Bureau of Mines Report for August 1928

ANALYSIS OF SUPPLY AND DEMAND OF ALL OILS

(Including wax, coke, and asphalt in thousands of barrels of 42 U. S. gallons)

	Aug., 1928	July, 1928	Aug., 1927	Jan.-Aug., 1928	Jan.-Aug., 1927*
NEW SUPPLY:					
Domestic production:					
Crude petroleum:					
Light	70,090	67,665	69,345	526,071	521,295
Heavy	7,739	7,761	9,443	62,472	76,947
Total crude	77,829	75,426	78,788	588,543	598,242
Natural gasoline	3,421	3,409	3,214	27,162	25,167
Benzol	233	228	214	1,840	1,718
Total	81,483	79,063	82,216	617,545	625,127
Daily average	2,628	2,550	2,652	2,531	2,573
Excess of daily average domestic production over domestic demand	99	150	242	282	412
Imports:					
Crude	6,141	7,878	6,261	52,025	37,079
Refined	1,007	781	774	8,697	9,528
Total new supply all oils	88,631	87,722	89,251	678,267	671,734
Daily average	2,859	2,830	2,879	2,780	2,764
Change in stocks all oils	‡2,458	‡1,111	1,409	23,005	52,565
DEMAND:					
Total demand	91,089	88,833	87,842	655,262	619,169
Daily average	2,938	2,866	2,834	2,686	2,548
‡Exports:					
Crude	1,883	1,669	1,382	12,232	10,010
Refined	10,816	12,769	11,758	94,160	84,094
Domestic demand	78,390	74,395	74,702	548,870	525,065
Daily average	2,529	2,400	2,410	2,249	2,161
STOCKS (end of month):					
Crude:					
§East of California:					
Light	317,438	318,004	286,803	317,438	286,803
Heavy	51,215	51,239	46,610	51,215	46,610
California:					
Light	18,310	18,215	23,262	18,310	23,262
¶Heavy	95,057	95,663	93,353	95,057	93,353
Total crude	182,020	483,121	450,028	482,020	450,028
Natural gasoline at plants	414	477	846	414	846
Refined products	127,160	128,454	122,827	127,160	122,827
Grand total stocks all oils	609,594	612,052	573,701	609,594	573,701
‖Days' supply	207	214	202	227	225
Bunker oil (included above in domestic demand)	4,564	4,116	4,470	34,045	32,647

*Final figures. †Decrease. ‡Includes shipments to non-contiguous territories. §Exclusive of producers' stocks. ¶Includes fuel oil. ‖Grand total stocks divided by daily average total demand.

PRODUCTION OF CRUDE PETROLEUM BY FIELDS AND STATES WITH CLASSIFICATION BY GRAVITY

(Barrels of 42 U. S. gallons)

FIELD:	August, 1928 Total	August, 1928 Daily av.	July, 1928 Total	July, 1928 Daily av.	Jan.-Aug., 1928	Jan.-Aug., 1927*
Appalachian	2,719,000	87,700	2,637,000	85,100	20,641,000	20,317,000
Lima-Indiana	145,000	4,700	159,000	5,100	1,165,000	1,269,000
Michigan	46,000	1,500	56,000	1,800	326,000	297,000
Ill.-S. W. Ind.	659,000	21,300	632,000	20,400	4,993,000	5,234,000
Mid-Continent	48,194,000	1,554,600	45,635,000	1,472,100	359,681,000	359,615,000
Gulf Coast	4,062,000	131,000	4,085,000	131,800	30,166,000	35,460,000
Rocky Mountain	2,559,000	82,500	2,468,000	79,600	19,411,000	†21,088,000
California	19,445,000	627,300	19,754,000	637,200	152,160,000	154,962,000
Total U. S.	77,829,000	2,510,600	75,426,000	2,433,100	588,543,000	598,242,000
STATE:						
Arkansas	2,754,000	88,800	2,809,000	90,600	21,877,000	28,014,000
California	19,445,000	627,300	19,754,000	637,200	152,160,000	154,962,000
Colorado	240,000	7,700	247,000	8,000	1,861,000	1,957,000
Illinois	572,000	18,500	551,000	17,800	4,376,000	4,767,000
Indiana	95,000	3,100	88,000	2,800	680,000	558,000
Southwestern	87,000	2,800	81,000	2,600	617,000	467,000
Northwestern	8,000	300	7,000	200	63,000	91,000
Kansas	3,180,000	102,500	3,267,000	105,400	26,696,000	27,790,000
Kentucky	660,000	21,300	653,000	21,100	4,867,000	4,403,000
Louisiana	1,993,000	64,300	1,993,000	64,300	14,736,000	15,345,000
Gulf Coast	776,000	25,000	774,000	25,000	4,409,000	3,338,000
Rest of State	1,217,000	39,300	1,219,000	39,300	10,327,000	12,007,000
Michigan	46,000	1,500	56,000	1,800	326,000	297,000
Montana	338,000	10,900	393,000	9,400	2,664,000	3,527,000
New Mexico	84,000	2,700	89,000	2,900	695,000	926,000
New York	223,000	7,200	202,000	6,500	1,626,000	1,482,000
Ohio	611,000	19,700	616,000	19,900	4,822,000	5,167,000
Cent. & East.	474,000	15,300	464,000	15,000	3,720,000	3,989,000
Northwestern	137,000	4,400	152,000	4,900	1,102,000	1,178,000
Oklahoma	21,420,000	691,000	19,142,000	617,500	158,010,000	182,398,000
Osage County	1,561,000	50,400	1,599,000	51,600	13,921,000	16,454,000
Rest of State	19,859,000	640,600	17,543,000	565,900	144,089,000	165,944,000
Pennsylvania	860,000	27,700	827,000	26,700	6,533,000	6,342,000
Tennessee	9,000	300	6,000	200	37,000	39,000
Texas	22,909,000	739,000	22,509,000	726,100	168,528,000	141,528,000
Gulf Coast	3,286,000	106,000	3,311,000	106,800	25,757,000	32,122,000
Rest of State	19,623,000	633,000	19,198,000	619,300	142,771,000	109,406,000
West Virginia	493,000	15,900	485,000	15,600	3,858,000	4,062,000
Wyoming	1,897,000	61,200	1,839,000	59,300	14,281,000	14,673,000
Salt Creek	1,198,000	38,600	1,196,000	38,600	9,650,000	10,120,000
Rest of State	699,000	22,600	643,000	20,700	4,631,000	4,553,000
CLASSIFICATION By GRAVITY (approx):						
Light crude	70,090,000	2,261,000	67,665,000	2,182,700	526,071,000	521,295,000
Heavy crude	7,739,000	249,600	7,761,000	250,400	62,472,000	76,947,000

*Final figures. Includes approximately 2,750,000 bbls. consumed on leases, etc., not included in 1928 preliminary figures. †Including Alaska.

STOCKS OF CRUDE PETROLEUM HELD IN THE UNITED STATES (BARRELS)

AT REFINERIES (and in coastwise transit thereto.) Reported by location of storage:		August 31 1928	July 31, 1928	August 31, 1927*
East Coast:				
Domestic		8,991,000	8,698,000	9,401,000
Foreign		4,946,000	5,203,000	3,029,000
Appalachian		2,258,000	2,186,000	1,783,000
Indiana, Illinios, etc.		2,891,000	3,053,000	2,746,000
Oklahoma, Kansas, etc.		5,208,000	5,688,000	4,400,000
Texas:				
Inland		1,926,000	1,863,000	1,463,000
Gulf Coast:				
Domestic		7,814,000	8,152,000	6,758,000
Foreign		54,000	150,000	203,000
Arkansas and Inland Louisiana		882,000	840,000	448,000
Louisiana Gulf Coast:				
Domestic		4,690,000	4,462,000	5,126,000
Foreign		1,049,000	1,194,000	1,288,000
Rocky Mountain		1,545,000	1,440,000	1,385,000
Total east of California		42,254,000	42,929,000	38,030,000
ELSEWHERE THAN AT REFINERIES:				
Domestic—Reported by field of origin:				
Appalachian:				
N. Y., Pa., W. Va., Eastern and Central Ohio:	Gross	6,055,000	6,235,000	7,216,000
	Net	5,752,000	5,942,000	6,946,000
Kentucky:	Gross	1,166,000	1,268,000	1,302,000
	Net	1,041,000	1,139,000	1,176,000
Lima-Indiana:	Gross	1,528,000	1,513,000	1,106,000
	Net	1,348,000	1,333,000	946,000
Illinois-S. W. Indiana:	Gross	12,570,000	12,551,000	12,676,000
	Net	11,909,000	12,049,000	12,184,000
Mid-Continent:				
Oklahoma, Kansas, Central, North and West Texas:	Gross	248,130,000	247,483,000	218,260,000
	Net	235,623,000	235,083,000	201,313,000
Northern Louisiana and Arkansas:	Gross	29,247,000	29,698,000	29,929,000
	Net	26,134,000	26,502,000	27,199,000
Gulf Coast:	Gross	18,298,000	17,689,000	18,424,000
	Net	17,807,000	17,235,000	17,945,000
Rocky Mountain:	Gross	26,738,000	26,990,000	27,478,000
	Net	26,700,000	26,949,000	27,415,000
TOTAL pipe line and tank farm stocks east of California:	Gross	343,732,000	343,427,000	311,331,000
	Net	326,314,000	326,232,000	295,124,000
Foreign crude petroleum on Atlantic Coast		23,000	40,000	39,000
Foreign crude petroleum on Gulf Coast		62,000	42,000	220,000
		85,000	82,000	259,000
TOTAL refinery, pipe line and tank farm stocks of domestic and foreign crude petroleum east of Calif.		368,653,000	369,243,000	333,413,000
CLASSIFICATION BY GRAVITY (approx.):				
East of California:				
Light crude (24 degrees and above)		317,438,000	318,004,000	286,803,000
Heavy crude (below 24 degrees)		51,215,000	51,239,000	46,610,000
California:				
Light		18,310,000	18,215,000	23,262,000
Heavy (including fuel)		95,057,000	95,663,000	93,353,000

*Final figures.

IMPORTS AND EXPORTS OF CRUDE PETROLEUM (Barrels)

(From Bureau of Foreign & Domestic Commerce)

	August, 1928 Total	August, 1928 Daily av.	July, 1928 Total	July, 1928 Daily av.	Jan.-Aug., 1928	Jan.-Aug., 1927†
Imports	6,141,000	198,100	7,878,000	254,100	52,025,000	37,079,000
From Mexico	1,366,000	44,100	1,496,000	48,200	11,208,000	19,091,000
From Venezuela	3,600,000	116,100	4,808,000	155,100	30,357,000	11,282,000
From Colombia	807,000	26,000	1,271,000	41,000	8,442,000	4,599,000
From other countries	368,000	11,900	303,000	9,800	2,018,000	2,107,000
Exports*	1,883,000	60,700	1,669,000	53,800	12,226,000	10,010,000
Domestic crude oil:						
To Canada	1,723,000	55,600	1,377,000	44,400	9,899,000	8,317,000
To other countries	160,000	5,100	292,000	9,400	2,326,000	1,693,000
Foreign crude oil					1,000	

*No crude shipments to territories during August. †Final figures.

INDICATED DELIVERIES OF CRUDE PETROLEUM, EXCLUSIVE OF CALIFORNIA GRADES, TO DOMESTIC CONSUMERS (Barrels)

	August, 1928 Total	August, 1928 Daily av.	July, 1928 Total	July, 1928 Daily av.	Jan.-Aug., 1928	Jan.-Aug., 1927*
Domestic petroleum by fields of origin:						
Appalachian	3,007,000	97,000	2,707,000	87,300	21,182,000	19,989,000
Lima-Indiana	130,000	4,200	93,000	3,000	951,000	588,000
Michigan	46,000	1,500	56,000	1,800	326,000	292,000
Ill. & S. W. Ind.	799,000	25,800	783,000	25,300	5,254,000	4,819,000
Mid-Continent	48,022,000	1,549,100	47,318,000	1,526,400	344,763,000	304,100,000
Gulf Coast	3,490,000	112,600	3,878,000	125,100	30,281,000	37,747,000
Rocky Mountain	2,808,000	90,500	2,557,000	82,500	19,949,000	21,831,000
Deliveries and exports	58,302,000	1,880,700	57,392,000	1,851,400	422,706,000	389,767,000
Deliveries	56,788,000	1,831,900	56,218,000	1,813,500	414,305,000	383,261,000
Foreign petroleum	6,138,000	198,000	7,938,000	256,100	52,023,000	37,429,000
Deliveries of domestic and foreign petroleum	62,926,000	2,029,900	64,156,000	2,069,600	466,328,000	420,690,000

*Final figures.

NUMBER OF PRODUCING OIL WELLS COMPLETED*

August, 1928	July, 1928	Jan.-Aug., 1928	Jan.-Aug., 1927†
1,247	1,096	7,870	10,450

*For states east of California, from The Oil and Gas Journal; for California, from the American Petroleum Institute. †Final figures.

SHIPMENTS OF CALIFORNIA OIL THROUGH PANAMA CANAL TO EASTERN PORTS IN UNITED STATES (Barrels)

	August, 1928	July, 1928	Jan.-Aug., 1928	Jan.-Aug., 1927*
Crude oil	162,000	242,000	2,053,000	7,280,000
Refined products	1,963,000	2,206,000	13,489,000	15,925,000
Gasoline	1,700,000	1,745,000	10,734,000	7,771,000
Asphalt	3,000	18,000	1,000	8,000
Gas oil	165,000	362,000	1,609,000	2,492,000
Fuel oil	2,000	2,000	713,000	5,440,000
Lubricants	5,000	1,000	232,000	214,000
Tops	88,000	95,000	183,000	

*Final figures.

COMPARATIVE ANALYSIS

(Thousands of barrels of 42 U. S. gallons)

	Prod.* Total	Prod.* Dly. av.	Imports† Total	Imports† Dly. av.	Exports† Total	Exports† Dly. av.	Stocks end of period	Dom. demand Total	Dom. demand Dly. av.
CRUDE PETROLEUM:									
August, 1928	81,582	2,632	6,141	198	1,883	61	‡386,963		
July, 1928	80,700	2,603	7,878	254	1,669	54	‡387,458		
Jan.-Aug. 1928	594,171	2,435	52,025	213	12,232	50	‡386,963		
August, 1927	70,957	2,289	6,261	202	1,382	45	‡356,675		
Jan.-Aug., 1927	547,283	2,252	37,079	153	10,010	41	‡356,675		
GASOLINE:									
August, 1928	34,037	1,098	479	15	4,563	147	27,197	33,148	1,069
July, 1928	32,884	1,061	267	9	5,167	167	30,392	31,985	1,032
Jan.-Aug., 1928	241,652	990	2,991	12	36,431	149	27,197	213,353	874
August, 1927	28,098	903	348	11	4,208	136	33,492	29,762	960
Jan.-Aug., 1927	216,623	891	3,423	14	30,004	123	33,492	195,573	865
KEROSENE:									
August, 1928	5,389	174	2		1,678	54	8,922	3,261	105
July, 1928	4,994	161	19	1	1,834	59	8,470	3,079	99
Jan.-Aug., 1928	40,055	164	129		14,889	61	8,922	24,088	99
August, 1927	4,420	143	4		1,700	55	8,694	3,173	102
Jan.-Aug., 1927	36,851	152	12		12,592	52	8,694	24,152	99
GAS OIL AND FUEL OIL:									
August, 1928	37,449	1,208	515	17	3,420	110	$134,818		
July, 1928	36,941	1,192	484	16	4,261	137	$133,073		
Jan.-Aug., 1928	276,718	1,134	5,033	21	31,306	128	$134,818		
August, 1927	33,975	1,096	391	13	4,639	150	$123,699		
Jan.-Aug., 1927	260,060	1,070	5,960	25	32,064	132	$123,699		
LUBRICANTS:									
August, 1928	2,891	93	1		813	26	7,711	2,035	66
July, 1928	2,827	91	1		1,063	34	7,667	1,930	62
Jan.-Aug., 1928	23,135	95	7		7,705	32	7,711	15,586	64
August, 1927	2,752	89	1		754	24	7,491	2,004	65
Jan.-Aug., 1927	20,904	86	6		6,433	27	7,491	14,502	60
WAX (thousands of pounds):									
August, 1928	54,084	1,745	2,793	90	31,446	1,014	79,136	30,771	992
July, 1928	45,273	1,460	2,226	72	35,290	1,138	84,476	19,722	636
Jan.-Aug., 1928	413,963	1,697	15,806	65	287,173	1,177	79,136	214,118	878
August, 1927	41,576	1,341	2,656	86	34,262	1,105	180,645	20,826	672
Jan.-Aug., 1927	384,798	1,584	11,497	47	216,496	891	180,645	184,485	759

*Figures in this column for crude petroleum are runs to stills. †From Bureau of Foreign and Domestic Commerce, subject to revision. Exports include shipments to Alaska, Hawaii and Porto Rico. ‡Includes California light crude. §Includes California heavy crude and fuel oil.

(Continued on Next Page)

RUNS TO STILLS AND OUTPUT OF REFINERIES IN THE UNITED STATES, AUGUST, 1928

	Crude oil—Domestic	Crude oil—Foreign	Unfinished o'ls	Natural gasoline	Total input (bbls.)
East Coast	9,104,000	5,901,000	1,167,000	114,000	16,286,000
Appalachian	3,048,000	.....	104,000	61,000	3,213,000
Indiana, Illinois, etc.	9,209,000	.....	621,000	188,000	10,018,000
Oklahoma, Kansas, etc.	10,329,000	.....	346,000	422,000	11,097,000
Texas	16,747,000	97,000	771,000	666,000	18,281,000
Louisiana and Arkansas	5,485,000	992,000	46,000	352,000	6,875,000
Rocky Mountain	2,315,000	.....	745,000	102,000	3,162,000
California	18,355,000	.....	*179,000	†1,139,000	19,673,000
United States total	74,592,000	6,990,000	3,979,000	3,044,000	88,605,000
Daily average, 8/28	2,406,200	225,500	128,300	98,200	2,858,200
Daily average, 7/28	2,368,800	234,400	107,300	90,400	2,800,900
Texas Gulf Coast	11,883,000	97,000	687,000	536,000	13,203,000
Louisiana Gulf Coast	3,412,000	992,000	28,000	257,000	4,689,000

	Gasoline (bbls.)	Kerosene (bbls.)	Gas oil and fuel oil (bbls.)	Lubricants (bbls.)	Wax (lbs.)
East Coast	4,800,000	677,000	8,145,000	915,000	22,794,000
Appalachian	1,412,000	328,000	656,000	458,000	7,957,000
Indiana, Illinois, etc.	5,244,000	572,000	3,002,000	326,000	6,214,000
Oklahoma, Kansas, etc.	5,657,000	949,000	3,405,000	213,000	3,851,000
Texas	7,320,000	1,403,000	7,259,000	654,000	4,982,000
Louisiana and Arkansas	2,184,000	189,000	2,908,000	36,000	3,774,000
Rocky Mountain	1,478,000	179,000	655,000	53,000	4,512,000
California	5,942,000	792,000	11,419,000	236,000	.....
United States total	34,037,000	5,389,000	37,449,000	2,891,000	54,084,000
Daily average, 8/28	1,098,000	173,800	1,208,000	93,300	1,744,600
Daily average, 7/28	1,060,800	161,100	1,191,600	91,200	1,460,400
Texas Gulf Coast	5,469,000	1,127,000	4,856,000	610,000	4,765,000
Louisiana Gulf Coast	1,626,000	137,000	1,622,000	34,000	3,774,000

	Coke (tons)	Asphalt (tons)	Other finished products (bbls.)	Unfinished products (bbls.)	Losses (bbls.)
East Coast	13,000	153,800	129,000	161,000	522,000
Appalachian	4,700	200	34,000	96,000	173,000
Indiana, Illinois, etc.	39,300	36,300	206,000	114,000	132,000
Oklahoma, Kansas, etc.	28,600	1,200	83,000	127,000	486,000
Texas	29,200	18,100	7,000	585,000	794,000
Louisiana and Arkansas	10,100	45,000	212,000	579,000	159,000
Rocky Mountain	11,200	2,400	26,000	597,000	72,000
California	.....	59,200	294,000	*331,000	328,000
United States total	136,100	316,400	991,000	2,530,000	2,666,000
Daily average, 8/28	4,390	10,210	32,000	81,600	86,000
Daily average, 7/28	4,100	10,630	30,000	90,700	90,500
Texas Gulf Coast	22,930	18,100	1,000	309,000	607,000
Louisiana Gulf Coast	10,000	43,000	198,000	426,000	49,000

Note.—Wax, coke, and asphalt equivalent to 277.4 pounds per barrel and 5.17 and 5.55 bbls. per ton, respectively.

*Includes 55,000 bbls. net tops rerun. †Includes 148,000 bbls. run through pipe lines.

GASOLINE PRODUCTION BY THE VARIOUS METHODS, AUGUST, 1928 (Barrels)

	Straight-run	%	Cracked	%	Natural gasoline	%	Total
East Coast	2,666,000	56	2,020,000	42	114,000	2	4,800,000
Appalachian	948,000	67	403,000	29	61,000	4	1,412,000
Indiana, Illinois, etc.	2,797,000	53	2,259,000	43	188,000	4	5,244,000
Oklahoma, Kansas, etc.	3,379,000	60	1,856,000	33	422,000	7	5,657,000
Texas	4,037,000	55	2,617,000	36	666,000	9	7,320,000
Louisiana and Arkansas	1,121,000	51	711,000	33	352,000	16	2,184,000
Rocky Mountain	725,000	49	651,000	44	102,000	7	1,478,000
California	4,331,000	73	472,000	8	*1,139,000	19	5,942,000
Total United States	20,004,000	59	10,989,000	32	3,044,000	9	34,037,000
Total U. S. July, 1928	19,473,000	59	10,609,000	32	2,802,000	9	32,884,000
Total U. S. Jan.-Aug., 1928	141,746,000	59	77,168,000	32	22,738,000	9	241,652,000
Gulf Coasts	3,464,000	49	2,838,000	40	793,000	11	7,095,000

*Includes natural gasoline run through pipe lines.

STOCKS HELD BY THE REFINING COMPANIES IN THE UNITED STATES, AUGUST 31, 1928

	Gasoline (bbls.)	Kerosene (bbls.)	Gas oil and fuel oil (bbls.)	Lubricants (bbls.)
East Coast	4,300,000	1,417,000	8,773,000	2,585,000
Appalachian	742,000	312,000	1,111,000	1,193,000
Indiana, Illinois, etc.	3,483,000	1,279,000	3,441,000	742,000
Oklahoma, Kansas, etc.	1,855,000	557,000	6,581,000	449,000
Texas	4,820,000	1,626,000	13,124,000	1,612,000
Louisiana and Arkansas	1,006,000	1,453,000	5,322,000	114,000
Rocky Mountain	1,197,000	235,000	1,409,000	119,000
California	9,794,000	2,040,000	.....	894,000
Total United States	27,197,000	8,922,000	*39,761,000	7,711,000
Total United States 7-31-28	30,392,000	8,470,000	*37,410,000	7,667,000
Texas Gulf Coast	4,217,000	1,541,000	10,391,000	1,532,000
Louisiana Gulf Coast	912,000	1,423,000	4,495,000	113,000

	Wax (lbs.)	Coke (tons)	Asphalt (tons)	Other finished products (bbls.)	Unfinished oils (bbls.)
East Coast	*28,976,000	26,400	98,200	95,000	7,741,000
Appalachian	11,915,000	4,200	800	63,000	1,396,000
Indiana, Illinois, etc.	15,393,000	68,700	34,000	254,000	4,082,000
Oklahoma, Kansas, etc.	3,019,000	52,700	3,100	88,000	2,392,000
Texas	3,826,000	125,600	7,100	13,000	10,992,000
Louisiana and Arkansas	5,947,000	63,700	25,000	65,000	2,140,000
Rocky Mountain	10,056,000	60,800	8,400	59,000	1,127,000
California	.....	.....	48,900	220,000	†9,316,000
Total United States	79,136,000	402,100	225,500	857,000	39,096,000
Total United States 7-31-28	84,476,000	384,900	251,400	1,200,000	39,647,000
Texas Gulf Coast	3,706,000	111,300	7,000	5,000	9,809,000
Louisiana Gulf Coast	5,947,000	63,100	24,900	55,000	1,760,000

*East of California. †Includes 921,000 bbls. tops in storage.

PRODUCTION AND GRAVITY

(Barrels of 42 U. S. gallons)

	August, 1928—Total	August, 1928—Dly. av.	July, 1928—Total	July, 1928—Dly. av.	August, 1927—Total	August, 1927—Dly. av.	Av. gravity
Seminole	10,018,000	323,000	8,121,000	262,000	14,596,000	471,000	41 0
St. Louis-Pearson	2,566,000	83,000	1,134,000	37,000	.....	.....	40 0
Panhandle	1,939,000	63,000	1,974,000	64,000	3,072,000	99,000	36 0
West Texas	11,329,000	365,000	11,314,000	365,000	4,777,000	154,000	
Long Beach	5,918,000	191,000	6,078,000	196,000	2,821,000	91,000	26 0

STOCKS AT SEMINOLE

(Barrels of 42 U. S. gallons)

	Aug., 1928	July, 1928	Aug., 1927
Producers' stocks	438,000	371,000	473,000
Tank farm stocks	17,258,000	17,018,000	10,651,000
Total stocks	17,696,000	17,389,000	11,124,000

RECORD OF WELLS, AUGUST, 1928

	Completions—Oil	Completions—Gas	Completions—Dry	Total initial prod. (bbls.)	Average initial prod. (bbls.)	Drilling Aug. 31
Seminole	40	2	2	67,500	1,700	243
St. Louis-Pearson*	24		4	38,800	1,600	128
Panhandle	28	10	7	5,300	200	112
West Texas	118	1	30	1,022,000	8,700	339
Long Beach	22		5	17,000	800	160

*Represents wells in Pottawatomie County as reported by The Oil and Gas Journal.

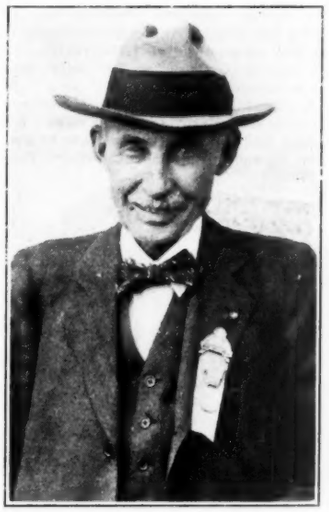
GROUNDS TRANSFORMED AT OIL EXPOSITION

(Continued from Page 39)

a bar where sandwiches, coffee and soft drinks will be served. Two ice cream wagons will be on the grounds. Except for things to eat, drink and smoke, there will be no opportunity to spend money at the exposition.

Indian Village a Feature

There will be no amusement concessions. There will be an Indian Village,



"Uncle Joe" may not wear the medal every day, but he will the smile. It's one of the reasons they call him "Uncle Joe."

band music and radio. Indian dancers and singers of a dozen Oklahoma tribes will be in the Indian Village, which was decided upon largely to avoid disappointing visitors from other parts of the country and from foreign countries who desire to see something of Indian life. There will be no entrance charge. A powerful radio, with loud speakers in the court, the restaurant and in front of the Red Cross station will give KVOO programs day and night. The programs will include football games, market reports and presidential campaign talks.

Credit for the magical changes at the exposition grounds is given to W. J. Skelly, president; J. Burr Gibbons, general manager; Frank Hinderliter and Alf G. Heggem, vice presidents; A. W. Leonard, treasurer; and to the Building and Grounds Committee of the Exposition, composed of D. D. Wertzberger, chairman; Mr. Leonard, Mr. Hinderliter and Mr. Heggem. Working under the direction of the committee and officials has been C. B. Wertzberger, superintendent of the grounds. Organization of the enormous amount of work involved has been in the hands of Mr. Gibbons.

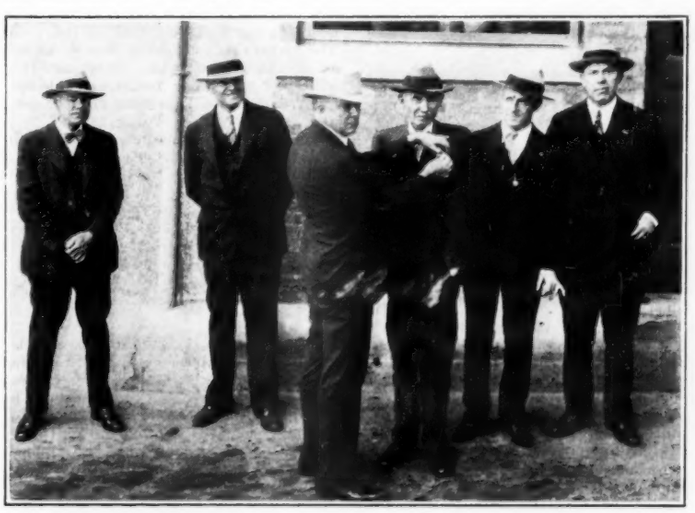
Thirty-eight persons were guests last Saturday night at a buffet supper given by Mr. Skelly in his home in Tulsa, when plans for the forthcoming exposition were discussed and reports made by chairmen of the committees. Mr. Skelly predicted that this year's show would exceed last year's by 40 per cent, all phases considered. Mr. Gibbons reported that almost a score of prospective exhibitors had to be refused space because of the demand exceeding the supply. D. D. Wertzberger, chairman of the Building and Grounds Committee, reported that facilities of the exposition plant had been put into better condition for less money than had been possible in the past.

Harry Gale, chairman of the Housing Committee, reported that virtually all reservations had been taken in the newer and larger of Tulsa's hotels, but that provisions would be made for all visitors. Mr. Heggem, chairman of the Scientific and Technical Committee, declared the scientific exhibits would be an eye-opener for the oil men coming to the show. H. L. Armstrong, of the Trains Committee, said the railroads were co-operating in the matter of transportation. Don Wallace, head of the committee in charge of the first aid contest, said 22 teams had entered.

At a luncheon of the Tulsa Chamber of Commerce last Friday a gold medal was presented to Joseph H. Evans, president of the Devonian Oil Co., as "Grand Old Man of the Oil Industry in Tulsa." The presentation was made by Harry H. Rogers, president of the Exchange National Bank, Tulsa, of which Mr. Evans, known among his intimates as "Uncle Joe," is a director. Mr. Evans will act as host to old-time oil men at the exposition, which will open Saturday afternoon, October 20, and continue till October 29. On Tuesday, October 23, a Grand Old Man of the Oil Industry of the World will be elected and he will receive a gold medal.

OIL IN WEST AFRICA

Prospecting for petroleum in the Lake Albert basin by the Kilo-Moto Gold Mines Co. shows that the petroleum zone possibly extends over an area 200 kilometers long by 40 to 50 kilometers wide. The petroleum already discovered is equal in quality to the California petroleum. The oil sands should be at a depth varying from 400 to 1,000 meters, and between 30 and 100 meters in thickness.



Left to right—Barney Horrigan, chairman Old Timers committee; A. F. Bourne, director; Harry H. Rogers, president Exchange National Bank; Joseph H. Evans; J. Burr Gibbons, general manager; W. G. Skelly, president.

EQUIPMENT AND SUPPLIES

NEW TYPE FLOW METER PLACED ON THE MARKET

The Meriam Co., Cleve'and, Ohio, has placed on the market a new type of indicating flow meter suitable for measuring the flow of air, gas, saturated or superheated steam, oils and other liquids at any temperature, vacuum or pressure.

Primarily the meters are designed for high line pressures, 1,000 pounds per square inch or even higher, but with slight modifications they may be used with equally satisfactory results on vacuum or on low pressures. Their operation depends upon the fact that the flow of the liquid or gas causes a loss of pressure along the pipe. To insure correct readings, an accurately proportioned orifice disc is placed in the path of the flow in the pipe, and two small tubes are connected to the pipe line, one on each side of the orifice disc. The difference in pressure between the two sides is recorded by the level of mercury, or other nonevaporating liquid of constant weight. Since there are no gears, springs, etc., it is evident that the meter gives unusually accurate results over long periods. The orifice disc, being made of monel metal, will not wear or corrode.

In view of the high pressures which must be dealt with in many cases, and to the inaccuracy which would be caused in the readings by even the smallest leakage under such circumstances, it was decided to weld all pipe lines, valves, etc. in the meter connections. The new atomic hydrogen welding was used; and this method, it is stated, not only makes a perfectly solid and nonporous weld but also requires no extra grinding or finishing to give a clean finish.

NEW TRIMO WRENCH IS STRONGER THAN BEFORE

The Trimont Manufacturing Co., Inc., makers of the Trimo pipe wrench, announces the "improved and mightier" Trimo now ready for delivery. Although the contour of the frame has been slightly extended, the appearance of the new Trimo remains practically unchanged, and the parts of the old and new wrench are interchangeable throughout.

A new and scientifically developed method of heat treating is said to give

to the handle greater strength and toughness than ever before. The swinging steel frame, though not materially changed in appearance, has been strengthened.

As a further safeguard overlapping side lugs, an integral part of the handle, brace and frame effectively against lateral distortion or spreading.

WACO GETS CEMENT PLANT

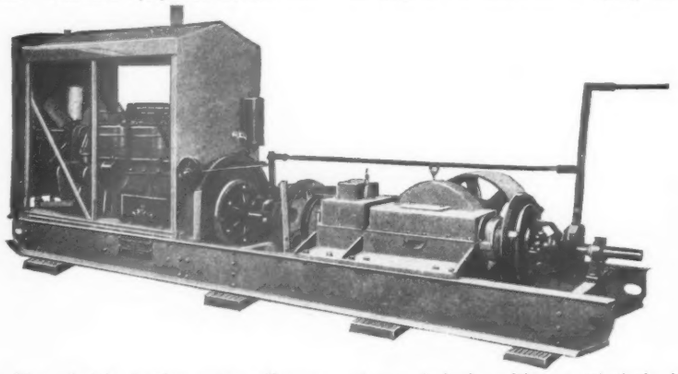
The growing importance of the cement industry in Texas is evidenced by the announcement of the Atlas Portland Cement Co. that it has completed plans for the immediate construction of a plant near Waco, Tex., with an initial annual production of approximately 1,000,000 bbls. per year. This is the first Atlas plant in that State.

In making known his decision to increase its operating mills to include a plant in Texas, John R. Morron, president of the Atlas Portland Cement Co., said: "Our intention to build and operate at Waco the most modern cement mill possible of construction accords with the long established."

YOUNG "BIG BOY" DRILLING ENGINE A COMPACT UNIT

To meet the requirements for an engine of large power to handle heavy tools and long strings of pipe the Young Engine Corp., Canton, Ohio, offers its Model 130-R gas drilling engine, developing 145 horsepower at 1,100 revolutions per minute of motor, or 300 revolutions per minute of belt pulley.

A six-cylinder motor of 6-inch bore and 7¼-inch stroke provides ample power, operating economically on either gas or gasoline. Standard equipment includes dual



ignition, electric starting system, oil purolator and air cleaner. The motor is cooled by a sectional type radiator fitted with cast-iron tanks. The motor and its accessories are contained in a metal hood, locked when not in service and acting as a protection against sand storms and weather conditions.

The heavy transmission, equipped with Timken tapered roller bearings and machine-cut gears of a special alloy steel, heat-treated, running in a bath of oil and all enclosed in a dirt and oil proof case, assures long and dependable service. It has a high and low speed forward and one speed in reverse, with this advantage, that when in low gear, the reverse speed remains the same as "high" which is a great time saver. A stiff reverse rod, operated from the derrick floor, controls the friction clutches by which the direction of the belt pulley can be changed without slowing down the motor.

A service brake is of great convenience as with it the load can be rigidly held at any desired position, particularly in making a "tight hitch."

Although the engine is compact and completely assembled on a rigid steel frame, the weight has been kept to the minimum, without sacrificing strength where it is needed. The result is one single unit, well balanced, requiring an inexpensive foundation, and therefore, easily and cheaply moved.

This "Big Boy" will be on display at the International Petroleum Exposition, Tulsa, Oct. 20-29.

GENERAL ELECTRIC HAS AUTOMATIC ARC WELDER

To do metallic arc welding automatically, a device is required which first will touch the electrode to the work and then quickly withdraw it to start the arc. This device thereafter must maintain a constant length of arc by feeding the electrode wire to the weld at the proper speed to replace the electrode which is melted away and deposited in the weld. The General Electric Co. has developed an automatic arc welder which not only will perform these functions automatically, but also will perform them rapidly and accurately.

The welding head and control are available either separately or as a part of a complete automatic welding equipment. This apparatus is said to be of particular value in the construction of standard products, such as pipes, tanks, boilers, cans, automobile rear-axle housings, car-wheel flanges, and shafts.

DISTRIBUTORS APPOINTED

The Trackson Co. of Milwaukee, Wis., announces appointment of the following distributors in southern territories: Dealers Equipment & Implement Co., Memphis, Tenn.; Evans Implement Co., Atlanta, Ga.; F-D Equipment Co., Dallas, Tex.; Industrial Tractor & Equipment Corp., Richmond, Va.; Industrial Machinery Co., Kansas City, Mo.; Southern Equipment Co., Inc., New Orleans, La.

These distributors will handle Trackson Full-Crawlers, loaders, shovels and cranes for the McCormick-Deering industrial tractor.

METALLIC ALLOY USED INSTEAD OF DIAMONDS

There is no real substitute for black diamonds as a material for setting core drill bits, when rate of progress and cost per foot of hole drilled in any formation are the only factors to be considered. Under certain conditions, however, the possibilities of a substitute have been recognized, and many experiments have been made.

"Sulamite," one of these substances manufactured by the Sullivan Machinery Co., Chicago, has proved an acceptable substitute for the black diamond. "Sulamite" is a metallic alloy having practically the same characteristics as carbon or black diamond, with the exception that it is not as hard. It is extremely hard, however, and has demonstrated its value in the laboratory and in drilling work in the field. The process of manufacturing "Sulamite" is a trade secret.

BUSINESS NOTES

The Tulsa office of Spang, Chalfant & Co., Pittsburgh, has been moved from the Mid-Continent Building to 2202 Exchange Bank Building.

Spencer S. Swasey, of Chicago, has joined the Walter A. Zelnicker Supply Co., of St. Louis, Mo., as manager of the equipment department. For 12 years he was manager of sales for the George D. Whitcomb Co.

The Wagner Electric Corp. has transferred H. D. Epting from its Philadelphia sales office to its Atlanta sales office. It has added R. W. Piper to its transformer sales division. Mr. Piper will travel the southeast district.

QUARTER-TURN VALVES HAVE GOOD FEATURES

The Homestead quarter-turn valve, manufactured by the Homestead Valve Manufacturing Co., Coraopolis, Pa., is so constructed that when it is closed the plug at the same time is forced firmly to its sent. The result is accomplished by a traveling cam through which the stem passes. The cam is prevented from turning with the stem by means of lugs, which move vertically in slots. When the valve is open the cam will be in the lower part of the chamber in which it is placed, and the plug will be free to be easily moved. A quarter of a turn in the direction for closing it causes the cam to rise and take a bearing on the upper surface of the chamber, and the only effect of further effort to turn the stem in that direction is to force the plug more firmly to the sent. A slight motion in the other direction immediately releases the cam and the plug turns easily, being arrested at its proper open position by contact of the finger of the cam at the other end of its travel. Balancing ports which allow the pressure to predominate at the top of plug hold it gently in its seat while the valve is open.

The company also manufactures Hovalco blowoff valves, Homestead protected seat hydraulic operating valves and other standard valves. It recently bought a plant containing 108 acres of ground near Coraopolis. It was established in Homestead, Pa., 35 years ago.

TOOL FACING DESIGNED TO RESIST HARD WEAR

Spartan special hard facing is the result of more than four years' research work in the laboratories of the Spartan Steel Co., Compton, Calif. In this time metallurgical engineers have developed a hard-facing metal that not only combines hardness and toughness to a high degree, but that withstands impacts and torsional

Left—Blades attached, faced with Spartan Special Hard Facing and Duridium. Right—Holder with blades detached. They may be attached in a few minutes and the Spartan double-locking device precludes likelihood of loss.

strains. In addition to these qualities it is reported that the Spartan special hard facing does not lose its hardness under excessive heat. It is used on fishtail bits, discs, core barrels, standard tools, underreamers or any other oil field tool which must resist abrasion.

The same company produces Duridium, a diamond substitute metal which is designed to resist the tremendous shock of hard drilling operation, and manufactures Spartan detachable bits.

The tong for larger, more powerful drilling machinery

Because of the greater depth to which wells are being drilled and to meet the severe conditions encountered with the use of larger and more powerful rotary drilling machinery, this Rotary Tong has been specially designed. All of the Wilson patented features have been retained, but the design is even more rugged than the regular Wilson 6″ Drop-forged Rotary Tong.

The pins are extra large and are made from special analysis steel. Note the extreme weight and ruggedness of the jaws. The Rollover Lever is also of much heavier construction.

All parts of this Tong are scientifically heat-treated in our own specially equipped plant. Up-to-date manufacturing facilities, together with expert workmanship, have resulted in a Tong which we believe is the strongest ever offered to the trade.

6″ Wilson
Extra Heavy
2-Step, Spring-latch
Rotary Tong

Patented

Wilson Oil Tools Corp.
DISTRIBUTORS FOR
Wilson & Willard Mfg. Co.

Factory and Distributor's Office — It's a Wilson — 2301 East Vernon Ave
Los Angeles, Calif.

Factory Representatives:

Tulsa, Oklahoma
409 Atlas Life Bldg.

Big Spring, Texas
15 New Lester Fisher Bldg.

Houston, Texas
2201 Breckenridge St.

Fort Worth, Texas
814 Dan Waggoner Bldg.

First in
Safety
Strength
Speed
Convenience

MID-CONTINENT RUNS SLIGHTLY LESS

(Continued from Page 40)

Name and Location—	Daily capacity	Runs Oct. 1	Runs Sept. 1
Olney Oil & Refining Co., Olney	2,000	1,400	1,800
Oriental Refining Co., Dallas	5,000	(*)	(*)
Oriental Refining Co., (Trinity), Dallas†	5,000	3,000	3,000
Orient Petroleum Co., Wichita Falls	2,500	1,200	1,200
Panhandle Refining Co., Wichita Falls	5,000	4,200	3,450
Pampa Refining Co., Pampa	1,000	2,500	2,000
Phillips Petroleum Co., Isom	7,500	7,100	6,000
Primrose Refining Co., Wichita Falls	2,500	1,500	1,500
Primtex Refining Co., Grand Prairie	2,500	750	1,000
Simms Oil Co., Dallas	5,000	4,000	4,000
Star Refining & Producing Co., Fort Worth	1,800	(*)	300
Swastika Refining Co., Muenster	1,000	(*)	(*)
Taxman Refining Co., Wichita Falls	2,500	1,800	2,000
The Texas Company, Dallas	15,000	14,500	14,000
Tidal Western Refining Co., Burkburnett	3,000	2,000	2,000
Texas Pacific Coal & Oil Co., Fort Worth	3,000	2,800	2,000
Transcontinental Oil Co., Fort Worth	5,000	3,000	4,400
Waggoner Refining Co., Electra	3,400	2,500	2,700
Western Oil Corp., Wichita Falls	1,500	(*)	(*)
White Eagle Oil & Refining Co., Fort Worth	6,000	2,000	2,000
Total	159,700	105,750	104,700

*Shut down. †Operated by Magnolia Petroleum Co.

REFINERY OPERATIONS IN WEST TEXAS

(Plants which have been in operation during the past year)

Name and Location—	Daily capacity	Runs Oct. 1	Runs Sept. 1
Amarillo Producers & Refining Corp., Pyote	3,000	1,500	1,500
Big Spring Refining Co., Big Spring	2,500	2,100	...
Bluebonnet Oil Refining Co., Wickett	5,000	4,500	4,500
Central Texas Refining Co., Brownwood	1,250	520	950
Col-Tex Refining Co., Colorado	10,000	8,000	7,500
Grayburg Oil Co., San Antonio	6,000	2,200	2,200
Humble Oil & Refining Co., San Antonio	5,000	4,500	5,000
Humble Oil & Refining Co., McCamey	20,000	11,000	18,000
Misko Refineries, Inc., Laredo	1,500	500	500
Midland Refining Co., Midland	2,000	1,700	1,500
Pasotex Petroleum Co., El Paso	10,000	6,000	7,000
Pecos Valley Refining Co., Pyote	5,000	3,500	4,400
Pioneer Oil & Refining Co., Somerset	1,500	1,000	1,000
Rio Grande Oil Co., El Paso	3,000	2,800	2,750
San Angelo Refining Co., San Angelo	2,000	2,000	1,000
Superior Oil Co., Inc., Odessa	500	500	200
Sweetwater Oil & Refining Co., Sweetwater	2,000	750	1,000
Tonkawa Petroleum Co., Pyote	4,000	4,000	3,000
Texas Mexican Oil & Refining Co., Laredo	1,000	650	700
Texas Petroleum Products Co., Somerset	1,500	500	500
Wickett Refining Co., Wickett	2,500	†	...
Total	89,250	58,220	61,000

†The Wickett Refining Co. operates with tops secured from the Bluebonnet Refining Co. The plant during October will handle approximately 900 bbls. of tops daily.

REFINERY OPERATIONS IN NORTH LOUISIANA

(Plants which have been in operation during the past year)

Name and Location—	Daily capacity	Runs Oct. 1	Runs Sept. 1
Bayou State Refining Co., Houston	600	250	250
Crystal Oil Refining Corp., Shreveport	14,000	9,000	9,000
Dixie Oil Co., Superior	3,000	2,500	2,500
Louisiana Oil Refining Corp., Shreveport, Bossier	24,000	18,000	22,800
Shreveport Producing & Refining Co., Shreveport	8,000	8,500	8,500
The Texas Company	6,000	6,000	6,000
Total	55,600	44,250	49,050

†Topping.

REFINERY OPERATIONS IN ARKANSAS

(Plants which have been in operation during the past year)

Name and Location—	Daily capacity	Runs Oct. 1	Runs Sept. 1
Henry H. Cross Co., Smackover	5,500	5,000	5,000
Houston Oil Co., Camden	3,000	2,100	2,200
Kettle Creek Refining Co., Pearson	5,000	5,000	4,500
Lion Oil & Refining Co., El Dorado	12,000	7,100	7,500
Macmillan Petroleum Products Co., El Dorado	1,800	1,600	1,500
Ouachita Valley Refining Co., El Dorado	2,000	1,000	2,000
Root Refineries, El Dorado	5,500	3,550	3,700
Simms Oil Co., Smackover	3,000	2,600	3,000
Total	38,800	27,950	29,400

CONSUMPTION REACHES THE BILLION MARK

(Continued from Page 38)

tion during the coming fall and winter months. Many refiners are also making preparations to increase their facilities for cracking these heavy fractions of the crude oil so that some improvement in the statistical situation of fuel oil and gas oil is to be expected in the near future provided increasing quantities of heavy crude oil are not produced and thrown on the market. In the case of a few refineries the fact that they have large quantities of fuel oil and gas oil on hand will tend to limit the amount of crude oil run to stills at their refineries during the next few months.

Other Products

As shown in the accompanying table the market for lubricants has been maintained on a healthy basis so far this year. An increase of 7.4 per cent in the domestic demand and 18.6 per cent in exports has been materialized so that on August 31, 1928, stocks were only 2.9 per cent greater than on the same date last year.

The demand for petroleum wax continues to exceed the demand, so that over 5,000,000 pounds were withdrawn from refinery storage during August. Stocks on August 31 were 56.2 per cent less than on the same date last year and were the lowest in several years. The total demand so far this year has been 25 per cent greater than the same period last year divided by a 16 per cent increase in the domestic demand and a 32.6 per cent increase in exports.

UNIVERSITY ROYALTIES

DALLAS, Tex., Oct. 6.—Texas University will receive $1,000,000 cash and an adjustment of royalties estimated to be worth $500,000 in addition to regular royalties now being paid, by terms of a settlement effected at a conference here between attorneys representing the State and those representing the Reagan County Purchasing Co. and others.

Settlement of the suit, filed by the State in behalf of the University against the Reagan County Purchasing Co., Texon Oil and Land Co., Texon Oil and Land Co. of Texas, Big Lake Oil Co. and several others, was made by R. E. L. Saner, one of the attorneys representing the University of Texas, and Attorney-General Claude Pollard.

H. L. DOHERTY RECOVERING

Henry L. Doherty is reported so much benefited by his prolonged rest at Battle Creek, Mich., that he is expected to leave that resort shortly. For the past year he has been under treatment there for ailments indicated by high blood pressure, with absolute rest enforced by his physicians' orders. His many friends in the oil and gas industry will be glad to hear he is now considered well on the road to recovery.

TEXAS PANHANDLE WILDCATS

(Continued from Page 47)

FLOYD COUNTY

Expltn. Co.'s No. 1 S. H. Boone, C. C. H. Johnson Sur. . . S.D. 4,015 ft.

GRAY COUNTY

Arnold & Howell's No. 1 Turnex, C SW, Sec. 111, Blk. B-2 . . . S.D. 2,224 ft. for pipe.

Barker & Wetzel's No. 1 J. S. Morse, 330 ft. NE of SW cor. N ½ SW, Sec. 66, Blk. 25, H.&G.N. Sur. . . . Shot with 125 qts. 2,900-3,012 ft; and 170 qts. 2,520-2,620 ft; spraying 15 bbls. daily.

Biggs et als' No. 1 Morse, SW cor. Sec. 3, Blk. 26, H. &G.N. Sur . . . 10,000,000 ft. gas 2,192-2,250 ft; S.D. 2,590 ft.

Camel Oil Co.'s No. 1 Harrah-B, 330 ft. each way from NW cor. NE, Sec. 150, Blk. 3, I.&G.N.R.R. Sur. . . . Location.

Crabtree Drlg. Co.'s No. 1 B. F. Talley, SW NE, Sec. 114, Blk. M-2, B.S.&F. Sur. . . . Drlg. 1,625 ft.

Danciger et als' No. 1 Shaw, 1,000 ft. N and 330 ft. W SE cor. SW, Sec. 5, Blk. 1, A.C.H.&B. Sur. . . . 35,000,000 ft. gas 2,290 ft; show oil 2,610-13 ft; S.D. 2,683 ft.

Danciger O. & R. Co.'s No. 3 J. S. Morse, 330 ft. each way from NE cor. SW¼, Sec. 2, Blk. 26, H.&G. N.R.R. Sur. . . . Rig on ground.

Danciger Oil Co.'s No. 1 Thut, 330 ft. from N and E lines E 90 acres W½, Sur. 3, H.&G.N. Sur. (1 mile E of LeFors) . . . 30,000,000 ft. gas 2,270-2,455 ft; drlg. 2,610 ft.

Delmar Oil Co.'s No. 1 F. Foster, NW cor. SW, Sec. 55, Blk. B-2, H.&G.N. Sur. . . . Show oil; 4,000,000 ft. gas 2,836-97 ft; T.D. 2,757 ft; to plug back to 2,950 ft. and shoot.

Bob Dunlop's No. 1 J. S. Morse, 990 ft. N and 330 ft E of SW cor. NW, Sec. 2, Blk. 26, H.&G.N. Sur. . . . Swb. 8 bbls. per hr.; lime at 2,415-75 ft; T.D. 2,550 ft; 43.6 gravity; trace wtr. 2,632 ft; to P.B.

Dunnegan et als' No. 1 M. B. Davis, 330 ft. from SE cor. S½ NW, Sec. 8, Blk. 1, A.C.H.&B. Sur. . . . Location

Edwards et als' No. 2 E. J. Case, 410 ft. from N line 330 ft. from E line, Sec. 182, Blk. B-2, H.&G.N. Sur. . . . 50,000,000 ft. gas 2,500-2,710 ft; shot with 100 qts. 3,228-50 ft; dry; to shoot again.

Eslick et als' No. 1 Mrs. J. A. Hopkins, NW cor. W 80 acres of SW, Sec. 84, Blk. B-2, H.&T.C. Sur. . . . 8,000,000 ft. gas 2,654-2,795 ft cased off; show oil 3,042-45 ft. 2,000,000 ft. gas 3,050 ft; S.D. 3,206 ft.

Ezell et als' No. 1 J. M. Bell, SE cor. NW, Sec. 183, Blk. B-2, H.&G.N. Sur. . . . Rig.

Get Oil Co.'s No. 1 LeFors Townsite, 765 ft. from E line and 1,397 ft. from S line, being center of Lot 16, Blk. 5 . . . Derrick.

Gulf Prod. Co.'s No. 3 Holmes-A, 330 ft. N and E of SW cor. W½ SE, Section 87, Blk. 3, I.&G.N. Sur. . . . Rig.

Gulf Prod. Co.'s No. 1 McLarty, 150 ft. N and 482 ft. W of SE cor. NE, Sec. 2, Blk. 1, A.C.H.&B. Sur. . . . Drlg. 1,719 ft.

Gardner Bros. et als' No. 1 Ball, 323 ft. from N line and 330 ft. from E line of W 186.3 acres of N½, Sec. 3, Blk. B-2, H.&G.N. Sur. . . . Drlg. 2,406 ft.

Landreth Prod. Corp.'s No. 1 Langham, SE cor. E 79 acres of N½, Sec. 1, Blk. 2, H.&G.N. Sur. . . . 40,000,000 ft. gas 2,090-2,300 ft; drlg. by tools 2,525 ft.

LeFors Pet. Co.'s No. 3 Shaw, 990 ft. S and 375 ft. E of NW cor. T. Leach Sur. . . . 30,000,000 ft. gas 2,075-2,340 ft; oil pay 2,631-43 ft; salt wtr 2,655-60 ft; made 300 bbls. fluid 50% wtr.

LeFors Pet. Co.'s No. 1 Shaw (Davis) C Lot 15, Blk. 13, LeFors Townsite . . . Drlg. 2,525 ft.

LeFors Pet. Co.'s No. 8 Shaw, 288 ft. from N line and 1,091 ft. from E line of T. Leach Sur. . . . Spud.

LeFors Pet. Co.'s No. 3 J. M. Shaw, 293 ft. from N line and 271 ft. from E line of Leach Sur. . . . Rig.

Magnolia Pet. Co.'s No. 2 Archer, SE N½ SE, Sec. 174, Blk. 3 . . . Spud.

Magnolia Pet. Co.'s No. 2 W. Harrah, 990 ft. from N line and 330 ft. from W line of NW, Sec. 150, Blk. 3, I.&G.N. Sur. . . . Drlg. 770 ft.

Magnolia Pet. Co.'s No. 3 fee, 600 ft. from S line and 330 ft. from E line, Sec. 11, Blk. 3, I.&G.N. Sur. . . . Fish. 2,300 ft.

Magnolia Pet. Co.'s No. 1 Saunders, 330 ft. from SE cor. W½ of W. Sec. 4, Blk. 1, A.C.H.&B. Sur. . . . Rig.

McElroy et als' No. 1 Bruce Bull, 260 ft. from E line and 330 ft. from N line, Sec. 3, Blk. B-2, H.&G.N. Sur. . . . 20,000,000 ft. gas 2,190-2,337 ft; shot with 240 qts. at 2,694-2,756 ft; 110 bbls. 12 hrs.

McElroy Oil Co.'s No. 2 Bruce Bull, 155 ft. from N line and 240 ft. from W line of E 87.3 acres of Sec. 3, Blk. B-2, H.&G.N.R.R. Sur. . . . Rig.

McMan O. & G. Co.'s No. 2 Winkley, 330 ft. each way from NW cor. W½ SE cor. Sec. 86, Blk. 3, I.&G.N. Sur. . . . Rig.

Midwest Expltn. Co.'s No. 2 L. Holmes, 330 ft. from N and 357 ft. from E lines, SW, Sec. 86, Blk. 3 . . . Drlg. 2,070 ft.

Operators Oil Co.'s No. 8 W. Jack, SE cor. N½ NE. Sec. 88, Blk. B-2 . . . S.O. 2,750-68 ft; T.D. 2,960 ft, making light spray.

Osborn et als' No. 1 E. E. Barrett, SE cor. NE, Sec. 111, Blk. 3, I.&G.N. Sur. . . . S.D. 2,410 ft.

Panhandle Ref. Co.'s No. 1 Saunders, 330 ft. from S and W lines of E 80 acres of NE, Sec. 3, A.C.H.& B. Sur. Blk. 1 . . . Location.

Parker et al' No. 1 Mrs. M. Parker, 990 ft. S and W NE cor. 360 acres, Sec. 9, E. N. Lynch Sur. . . . T.L. 2,175 ft; S.D. 2,359 ft.

Perkins & Cullums' No. 1 G. H. Saunders, 330 ft. from S and W lines SW SW, Sec. 4, Blk. 1, B.S.&F. Sur. . . . Drlg. 2,410 ft.

Phillips Pet. Co.'s No. 3 Johns, 330 ft. each way from SW. Sec. 87, Blk. 3, I.&G.N. Sur. . . . Drlg. 720 ft.

Phillips Pet. Co.'s No. 1 Bob Olsen, NW cor. S½, Sec. 64, Blk. B-2 . . . T.D. 3,239 ft; plugged back to 3,230 ft; shot with 440 qts. at 3,119-3,222 ft; 600 ft. oil and 60 ft. wtr. in hole; repairing rig

Plains Drlg. Co.'s No. 1 G. H. Saunders, 990 ft. from S L and 330 ft. W L of E½ SE, Sec. 4, Blk. 1 . . . Drlg. 2,465 ft.

Prairie O. & G. Co.'s No. 2 W. Harrah, 990 ft. from N line and 330 ft. from E line of NE 80 acres of Sec. 163, Blk. 3, I.&G.N. Sur. . . . Drlg. 3,340 ft.

Pure Oil Co.'s No. 8 Davis, 330 ft. from NW of NE, Sec. 86, Blk. 3, I.&G.N.R.R. Sur. . . . Drlg. 1,730 ft.

Purple Sage Oil Co.'s No. 2 E. B. Johnson . . . 2,000,000 ft. gas; 200 ft. oil 2,870 ft; shot with 510 qts. 2,775-2,872 ft; 400 ft oil; running 6-in. 2,875 ft.

Ray & Massie's No. 3 A. Chapman, 990 ft. from N line, 330 ft. from E line, Sec. 25, Blk. 25, H.&G.N. Sur. . . . Drlg. 2,772 ft.

Republic Prod. Co.'s No. 1 G. H. Saunders, 330 ft. each way from SW cor. E½ NW cor. Sec. 4, Blk. 1, A. C.H.&B. Sur. . . . Drlg. 520 ft.

Roxana Pet. Corp.'s No. 1 Lester, 330 ft. from S and 420 ft. from W lines, W 20 acres of SW NW, Sec. 1 Blk. 1, A.C.H.&B. Sur. . . . Drlg. 2,376 ft.

Shamrock Oil Co.'s No. 2-A Chapman, 330 ft. each way NW cor. of W 41.6 acres of E½, Sec. 50, Blk. 50, H.&G.N.R.R. Sur. . . . Location.

Shamrock Oil Co.'s No. 1 W. S. Clayton, 866 ft. from NW cor. of E 278.4 acres, Sec. 50, Blk. 25, H.&G.N. . . . Cmt. 8¼-in. csg. 2,196 ft.

Shamrock Pet. Co.'s No. 1 W. P. Dial, 330 ft. S and E of NW cor., Sec. 49, Blk. 25, I.&G.N. Sur. . . . Drlg. 2,818 ft.

Skelly Oil Co.'s No. 1 Ball, 257 ft. from E line and 267 ft. from S line of SE 160 acres in Sec. 2, Blk. B-2, H.&G.N. Sur. . . . Drlg. 2,460 ft.

South Bend Oil Co.'s No. 1 E. J. Case, 330 ft. NW SE cor. N½ W½, Sec. 180, Blk. B-2, H.&G.N. Sur. . . . 35,000,000 ft. gas 2,475-2,685 ft; drlg. 3,500 ft.

St. Clair Oil Co.'s No. 1 C. H. Rowe . . . Spudded and S.D.

St. Clair Oil Co.'s No. 1 L. S. Stockton, SE cor. Sec. 35, W. R. Lee Sur. . . . Spudded and S.D.

Strans & Allen's No. 1 M. Davidson, SW cor. E½ SE. Sec. 87, Blk. B-2, H.&G.N. Sur. — T.D. 3,105 ft; shot 200 qts. at 3,060-3,105 ft; swb. 28 bbls. 1 hr. 500 ft. oil.

The Texas Co.'s No. 4-A Chapman, 990 ft. N and 330 ft. from W line, Sec. 51, Blk. 25 — Drlg. 2,225 ft.

The Texas Co.'s No. 2 M. B. Davis, 330 ft. N and E of SW cor. NE, Sec. 8, Blk. 1, A.C.H.&B. Sur. — Drlg. 2,717 ft.

The Texas Co.'s No. 3 Davis, 990 ft. from E line and 330 ft. from N line NW, Sec. 86, Blk. 3, I.&G.N. Sur. — Bldg. rig.

The Texas Co.'s No. 3 M. B. Davis, 2,309 ft. from S line and 2,312 ft. from E line, Sec. 8, Blk. 1, A. C.H.&B. Sur. — Drlg. 500 ft.

The Texas Co.'s No. 4 H. M. Davis, SE cor. NW, Sec. 86, Blk. 3, I.&G.N. Sur. — Rig on ground.

The Texas Co.'s No. 2 M. L. Langdon, 990 ft. S and 330 ft. W of NE cor. E½ SE, Sec. 1, Blk. B-2, H &G.N. Sur. — Drlg. 2,531 ft.

The Texas Co.'s No. 3 McLarty and Lester-A, 330 ft. from NE ¼ SW, Sec. 1, Blk. 1, A.C.H.&B. Sur. — Drlg. 1,750 ft.

The Texas Co.'s No. 4-A McLarty & Lester, 794 ft. from E line and 330 ft. from N line of W½ of SW, Sec. 1, Blk. 1, A.C.H.&B. Sur. — Drlg. 460 ft.

The Texas Co.'s No. 5 Saunders, 500 ft. from E line, and 400 ft. from S line, Sec. 12, Blk. A-6, H.&G. N. Sur. — Location.

The Texas Co.'s No. 6 Saunders, 990 ft. from S line and 330 ft. from E line of W½ SE, Sec. 4, Blk. 1, A.C.H.&B. Sur. — Drlg. 2,555 ft.

The Texas Co.'s No. 1 Bull, 1,043 ft. from N and 330 ft. from E lines, Sec. 2, Blk. B-2, H.&G.N. Sur. — Drlg. 1,510 ft.

The Texas Co.'s No. 3-C Thut, 370 ft. from S and 349 ft. from E lines, Sec. 11, H.&G.N. Sur. — Drlg. 2,362 ft.

The Texas Co.'s No. 3 J. E. Williams, 257 ft. from W line and 325 ft. from N line, Sec. 6, Blk. 1, A.C. H.&B. Sur. — Drlg. 2,502 ft.

Travis et als' No. 1 J. S. Morse, SE NW SW, Sec. 68, Blk. 25, H.&G.N. Sur — S.D. 1,380 ft.

Wilcox Pampa Oil Co.'s No. 29 Wooley & Reynolds, 330 ft. S and W of NE SW, Sec. 61, Blk. 3, I.&G.N. Sur. — Fish. 2,815 ft.

Wilcox Pampa Oil Co.'s No. 30 Wooley & Reynolds, NW SE NW, Sec. 61, Blk. 3 — Drlg. 2,310 ft.

United Eight O. & T. Co.'s No. 1 E. B. Clay, SE cor. W½ SW, Sec. 177, Blk. B-2 — S.D. 2,775 ft.

HALL COUNTY

Rio Bravo Oil Co.'s No. 1 Hughes est., 950 ft. from N line, 150 ft. from E line, Sec. 39, Blk. H. I. A. Stephens Sur. — Drlg. 3,300 ft.

HEMPHILL COUNTY

Sageby Oil Co.'s No. 1 Burnell Bros., 999 ft. from E line and 330 ft. from S line SE, Sec. 38, Blk. M-1, H.&G.N. Sur. — Drlg. 560 ft.

HOCKLEY COUNTY

World Oil Co.'s No. 1 Ellwood, 320 ft. from N and W lines, League 7, Wilbarger County school lands; elevation 3,363 ft; contract depth, 5,000 ft. — S.D. 1,455 ft. to install rotary

HARTLEY COUNTY

Amarillo Oil Co.'s No. 9 Lee Bivins "A," C NW, Sec. 6, Blk. 21 — Cmt. 8¼-in. csg. 2,923 ft.

HUTCHINSON COUNTY

R. G. Barnum et als' No. 1 Garland Sanford Sec. 78, Blk. 46 — S.O. 2,920 ft; S.D. 2,975 ft; 500 ft. wtr; C.O.

Barnum & Delmar's No. 1 Johnson Bros., NW cor. E½ NW, Sec. 37, Blk. Y, A.&B. Sur. — 2,000 ft. oil 2,954-3,011 ft; swb. 150 bbls. after 160-qt. shot.

Devonian Oil Co.'s No. 9 Johnson Bros., 330 ft. S and W of NE cor. of Lot 3, Johnson Bros. Subdivision, M. Whitley Survey — Location.

Dunnigan et al's No. 1 C. W. Hugenbyhl, 330 ft. from S line and 330 ft. from E line, N½, Sec. 4, Blk. T, W.N.G.R.R. Sur. — Rig.

Oil Operators Trust Co. and Marland's No. 2 J. M. Stanford-B, Sec. 82, Blk. 46, H.&T.C. Sur. — S.D. 3,039 ft.

Phillips Pet. Co.'s No. 12 Elva Whittenburg, E. Tomlinson Sur. — C.O. 5,333 ft.

Phillips Pet. Co.'s No. 1 Jasper (Fee), 2,327 ft. from E line and 980 ft. from S line, Sec. 23, Blk. 23 — Drlg. 3,030 ft.

Phillips Pet. Co.'s No. 3 Sanford-Chap, 330 ft. S and 328 ft. E of NW cor. of E½ of S 160 acres of Sec. 78, Blk. 46, H.&T.C. Sur. — 25 bbls. 2,878-2,935 ft., to shoot.

Phillips Pet. Co.'s No. 3 Johnson Bros. (Florence), 412 ft. from W and 270 ft. from N lines, Tract 2, of Geo. Montgomery Sub-div. of Mary Whitley Sur. — Drlg. 406 ft.

Phillips Pet. Co.'s No. 1 Sanford-Felix, 330 ft. S and E of NW cor. of S 40 acres of E 80 acres of S 160 acres of Sec. 77, Blk. 46, H.&T.C. Sur. — Drlg. 2,150 ft.

Phillips Pet. Co.'s No. 1 Sanford-Garford, 330 ft. N and E of SW cor. N 40 acres of E 80 acres of S 160 acres of S 320 acres, Sec. 77, Blk. 46, H.&T. C.R.R. Sur. — Rig.

Phillips Pet. Co.'s No. 2 Sanford, 330 ft. from S line, 330 ft. from W line S 40 acres of E 80 acres of N 280 acres of S 320 acres, Sec. 82, Blk. 46, H.&T.C. R.R. Sur. — Rig.

Premier O. & G. Co.'s No. 1 L. E. Borton, C NE NW NW, Sec. 32, Blk. Y, A.&B. Sur. — Rigged up and S.D.

Rock Creek Oil Co.'s No. 2 Johnson, 330 ft. from N and W lines SW SE, Sec. 28, Blk. Y, A.&B. Sur. — Drlg. 2,610 ft.

Sand Creek Oil Co.'s No. 2 J. H. Jasper, 320 ft. from S line and 387 feet from W line of 100-acre lease, Sec. 23, Blk. M-23, T.C. Sur. — Drlg. 2,245 ft.

Timms et als' No. 2 Garner, 990 ft. S and 330 ft. E of NW cor. J. W. Proctor Sur. — Spud.

Wendell et als' No. 1 Johnson Bros., Sec. 1, Blk. X03 — Set 10-in. csg. 2,035 ft.; S.D.

White Eagle Oil Co.'s No. 4 Johnson Bros. (Montgomery), 330 ft. from N and W lines E½, Tract 2, Geo. Montgomery Sub-div. of Mary Whitley Sur. — Fish. 410 ft.

KING COUNTY

Humble O. & R. Co.'s No. 1 Pitchfork, Sec. 171, Blk. A-96, John H. Gibson Sur. — Drlg. 4,154 ft.

The Texas Co.'s No. 1 J. H. Johnson — U.R. 6-in. csg. 3,570 ft.

LAMB COUNTY

Dan Freel et als' No. 1 Ellwood, CWL, Sec. 9, Blk. T, T. A. Thompson Sur. — Spudded and S.D.

LUBBOCK COUNTY

Center Oil Co.'s No. 1 Bowles ranch — Small show oil 1,133-40 ft. in sand; S.D. 3,943 ft.

MOORE COUNTY

Barnsdall Oil Corp.'s No. 1 L. R. Hagy, NW cor. Thomas Ross Sur. — Drlg. 1,670 ft.

Dixie Creek Oil Co.'s No. 1-A Sneed, Jr., 330 ft. N and W of SE cor. E½, Sec. 65, Blk. 3, G.M. Sur. — Rig.

Dixie Creek Co.'s No. 4-A Sneed, Jr., 330 ft. S and W of NE cor. E½, Sec. 65, Blk. 3 — Rig.

McMan O. & G. Co.'s No. 1 Sneed, 2,260 ft. S and 330 ft. W of NW cor. J. W. Proctor Sur. but in Matilda Robinson Sur. — Rig.

Phillips Pet. Co.'s No. 1 J. T. Sneed (James) 330 ft. N and W of SW cor. P. Bazemore Sur. — Spud.

Phillips Pet. Co.'s No. 2 J. T. Sneed, 660 ft. S and 330 ft. W of NW cor. J. H. Proctor Sur. — Rig.

Phillips Pet. Co.'s No. 3 Sneed (James), 600 ft. S and 330 ft. W of NW cor. J. W. Proctor Sur., but in Matilda Robinson Sur. — Rig.

Prairie and Shamrock's No. 3 Gober, 2,302 ft. from N and 890 ft. from W lines of Sec. 16, Blk M-1, G. &M. Sur. — Set 8-in. 2,696 ft.; 20,000,000 ft. gas 2,745-3,366 ft; cmt. 6-in. 505 ft; drlg. 3,725 ft; 1,000 ft. wtr.

Skelly Oil Co.'s No. 4 Armstrong & Byrd, 1,600 ft. S and 330 ft. E of NW cor. J. W. Proctor Sur. — Rig.

Skelly Oil Co.'s No. 5 Armstrong & Byrd, 2,260 ft. S and 330 ft. E of NW cor. J. W. Proctor Sur. — Rig.

MOTLEY COUNTY

Expltn. Co.'s No. 1 Tillson — S.D. 750 ft. for repairs

Expltn. Co.'s No. 2 Matador Land & Cattle Co., C SW, Sec. 37, John Gibson Sur. — Drlg. 3,715 ft.

POTTER COUNTY

Amarillo Oil Co.'s No. 1 Bush "B," 270 ft. from S line and 390 ft. from W line of NW, Sec. 19, Blk. 6, B.&S.F. Sur. — Show gas 3,227 ft; drlg.

ROBERTS COUNTY

Big Bend Oil Co.'s No. 1 Ledrick, Sec. 7, Blk. 5-A — Formerly abandoned at 5,240 ft. small show 36 gravity oil 5,288-91 ft; drlg. 5,395 ft.

WHEELER COUNTY

Angus et als' No. 2 Morgan, C E½ NW NE, Sec. 93, Blk. 17, H.&G.N. Sur. — Rig.

Byrens et als' No. 1 Johnson, SW cor. NE, Sec. 88, Blk. A-5, H.&G.N. Sur. — S.D. 1,300 ft.

Canadian River Oil Co.'s No. 1 Williams & Laycock, 330 ft from NE cor. of NW, Sec. 2, Blk. 27, H.& G.N. Sur. — Drlg. 1,500 ft.

Chapman & Morgan's No. 1 Otis Hatcher, NW cor. SW SE, Sec. 63, Blk. 17, H.&G.N. Sur. — S.D. 715 ft.

Consolidated Gas Utilities Co.'s No. 1 M. Ackley-A, 660 ft. each way from NW cor. W½ SW, Sec. 20, Blk. 24, H.&G.N. Sur. — Drlg. 1,625 ft.

Lone Star Co.'s No. 1 Ackley, C NE NE, Sec. 20, Blk. 24, H.&G.N. Sur. — Rig on ground.

Lone Star Co.'s No. 1 Hicks, C SW NE, Sec. 52, Blk. 17, H.&G.N. Sur. — Rig.

Lone Star Co.'s No. 1 Shelton, C NE SE, Sec. 22, Blk. 24, H.&G.N. Sur. — Location.

Lone Star Co.'s No. 1 Trostle, C NW NE, Sec. 20, Blk. 17, H.&G.N. Sur. — Drlg. 1,015 ft.

Martin & Debon's No. 1 Gossett, C SE SE, Sec. 101, Blk. 23, H.&G.N. Sur. — Drlg. 1,280 ft.

L. W. Rook's No. 1 M. Nelson, C SW NE, Sec. 5, Blk. 24, H.&G.N. Sur. — Fish. 1,950 ft.

L. W. Rook's No. 2 A. Smock, C SW SE, Sec. 5, Blk. 24, H.&G.N. Sur. — Rig.

Upham Gas Co.'s No. 1 Lamb, C N½ NE SW, Sec. 91, Blk. 17, H.&G.N. Sur. — Rig on ground.

Upham Gas Co.'s No. 1 Stuckey, C E½ SE SW, Sec. 92, Blk. 17, H.&G.N. Sur. — Drlg. 2,005 ft.

White et als' No. 1 J. M. Shelton, C SW NE, Sec. 100, Blk. 17 — Drlg. 1,325 ft.

Wischkamper's No. 1 Brown-Young, C NW NE, Sec. 55, Blk. 23, H.&G.N. Sur. — 3,000,000 ft. gas 1,650-70 ft.; fish

WILDCAT OPERATIONS IN WEST TEXAS

(Continued from Page 48)

CRANE COUNTY

Gulf Prod. Co.'s No. 55 J. T. McElroy, 2,102 ft. S and 660 ft. E of NW cor. Sec. 200, Blk. F, C.C.S.D.& R.G.N.G. Sur. — Top lime 2,703 ft.; drlg. 2,729 ft.

Gulf Production Co.'s No. 56 J. T. McElroy, 2,102 ft. S and 48 ft. W of NE cor. of their lease, Section 201, Blk. F, C.C.S.D.&R.G.N.G.R.R. Co. Sur. — Location.

Gulf Prod. Co.'s No. 5 W. N. Waddell, 330 ft. N, 286 ft. W of SE cor. NE Sec. 11, Blk. 25 — Top salt 1,215 ft.; drlg. 1,975 ft.

J. K. Hughes Dev. Co.'s No. 1 State Bank Commission, 2,310 ft. from NW line and 990 ft. from NE line Sec. 23, Blk. 4, H.&T.C.R.R. — Top salt 525 ft.; top lime 2,480 ft.; 1,000 ft. sulphur water in hole; fishing 3,651 ft.

Texas & Pacific C. & O. Co.'s No. 2 University, 2,310 ft. S and 1,650 ft. W line Sec. 34, Blk. 30, University Land — Location.

Tidal Oil Co.'s No. 1 University-D, 990 ft. from W and 1,650 ft. from S lines, Sec. 34, Blk. 30, University Land — Location.

CROCKETT COUNTY

Barbara Oil Co.'s No. 1 Cox, 237 ft. S and 1,190 ft. E of NW cor. R. B. Dickenson Sur. — Straightreaming 295 ft.

V. T. Bolin & Co.'s No. 1 P. C. Coates, NW cor. SW Sec. 4, Blk. 2, I.&G.N. Sur. — Shut down 2,110 ft.

T. W. Callahan et al's No. 1 J. S. Todd, C SW Sec. 13, Blk. "YZ," E.L.&R.R. Sur. — Top salt 905 ft.; set 8-in. casing 1,155 ft.

Compton Co.'s No. 1 University Land, 1,875 ft. N and 916 ft. E of SW cor. Sec. 15, Blk. 50, University Land — Shut down 2,062 ft.; 300 ft. oil in hole at total depth and 1,200 ft. water 1,965-85 ft.; fishing 2,099 ft.

W. W. Donnelly & Young's No. 1 Massey, Sec. 29, Blk. U-V — Shut down 380 ft.

W. W. Donnelly & Young's No. 1 Shannon, SW SW SE Sec. 42, Blk. BB, T.C.R.R. Sur. — Spudded and shut down.

W. W. Donnelly & Young's No. 1 Middlebuster, C Sec. 11, Blk. 9, D.&S.E. Sur. — 7,000,000 ft. gas at 1,662 ft., shut down 1,680 ft. (cor.).

W. W. Donnelly & Young's No. 2 Middlebuster, Sec. 18, Blk. 10, G.C.&S.F.R.R. — Top salt 774 ft.; shut down 1,710 ft.

Fuhrman Pet. Corp.'s No. 1 Pagett, 330 ft. from CNEL Sec. 17, S. C. White Sur. A-3,003 — Fishing 910 ft.

Moncrief, Zoch et al's No. 1 J. H. Tippett, 330 ft. from C NE line Sec. 45, Blk. 31, H.&T.C.R.R., but in Sec. 1, Blk. JF — Location.

Renee Oil Co.'s No. 1 University, C N 40 acres of E 80 acres of SE Sec. 8, Blk. 47, University Land — Shut down 2,704 ft.

Texas-Canadian Oil Co.'s No. 1 University, 330 ft. from N and 305 ft. from E lines, Sec. 4, Blk. 33 — Location.

CULBERSON COUNTY

W. S. Hillyer's No. 1 McGregor, C NW Sec. 14, Blk. 81 — Standard rig and ready to spud.

Hickey & Stiver's No. 1 C. O. Finley, 660 ft. N and 1,980 ft. W Sec. 20, Blk. 82 — Fishing tools 1,381 ft.; hole full water; small oil show 1,381 ft.; pipe set 1,418 ft.; drlg. 1,522 ft. in lime.

Scott & Dittman's No. 1 Miller, 1,160 ft. N and 2,480 ft. E Sec. 1, Blk. 97, Public School Land — Rainbow 1,056 ft.; 300 ft. sulphur water 1,725 ft.; shut down for casing 1,767 ft.

DAWSON COUNTY

Magnolia Petroleum Co.'s No. 1 W. A. Jetter, C Sec. 1, Blk. 34, Twp. 4-N — Drlg. 695 ft.

ECTOR COUNTY

Pennsylvania Drlg. Co.'s No. 1 W. E. Connell, C NE Sec. 7, Blk. B-16 — Location.

EL PASO COUNTY

Sillix et al's No. 1 W. D. Malone, Sec. 46, James M. Day Sur. — Set 12½-in. casing 1,010 ft.; shut down 1,010 ft.

FISHER COUNTY

Bickerstaff et al's No. 1 McWhirter, 2,640 ft. E and 150 ft. N of SW cor. of Sec. 295, Blk. 2, H.&T.C. — Shut down 1,328 ft.

Cranfill & Reynolds' No. 1 E. G. Young, C of NW of SW of Sec. 199, B.B.B.&C. Sur. — Drlg. 1,680 ft.

Hucony Gas Co.'s No. 1 D. F. Mabee, 1,078 ft. S and 188 ft. W of NE cor. Elijah Bell Survey No. 327 — Rigging up.

Midwest Exploration Co.'s No. 2 Decker, 330 ft. S and E of NW cor. of S 60 ac. of W 160 ac. of N 320 ac. of Sec. 8, Blk. R, W. E. Richardson Sur. — Location.

Midwest Exploration Co.'s No. 1 Higginbotham, Sec. 8, Blk. R — Location.

Roeser & Pendleton and Landreth's No. 1-A Decker, 280 ft. N and 330 ft. E of SW cor. of N 100 ac. of W 160 ac. of N 320 ac. Sec. 8, Blk. R, W. E. Richardson Sur. — Drlg. 990 ft.

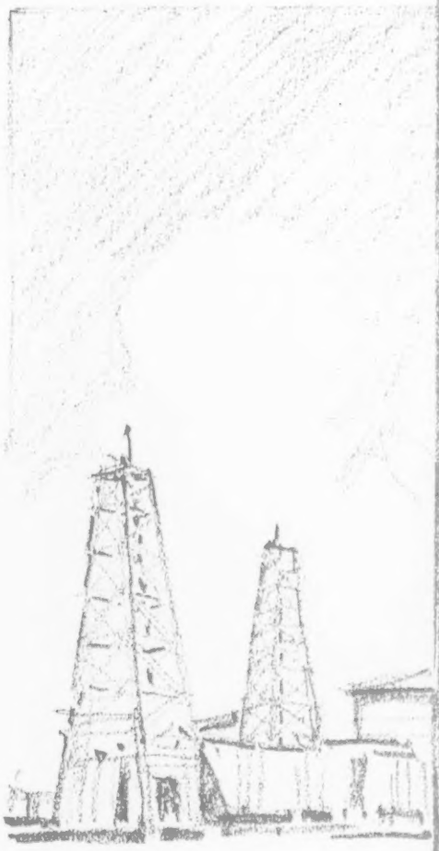
Sun et al's No. 2 Young, Sec. 208, Blk. 1, C NE SE, B.B.B.&C. Sur. — Set 8-in. casing 1,835 ft.

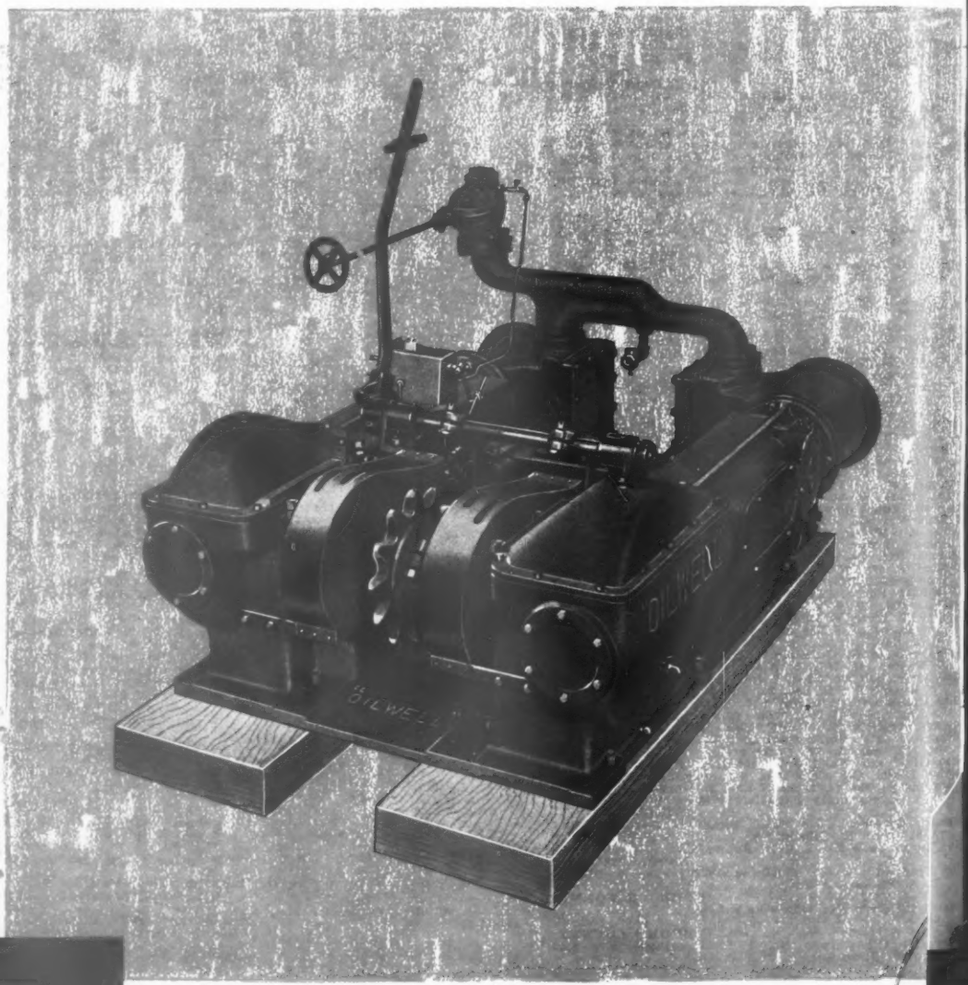
GLASSCOCK COUNTY

Josey & Finchbaugh's No. 1 S. R. Cox, 1,320 ft. W of NE cor. and located on the N line of Sec. 29, Blk. 33, Twp. 4s, T.P.R.R. Sur. — Hole full salt water 780 ft.; hole full salt water 1,801-15 ft.; set 6-in. casing 2,607 ft.; top lime 2,602 ft.

World Oil Co.'s No. 2 L. S. McDowell, SW SE SW Sec. 32, Blk. 34, Twp. 2s, elev. 2,523 ft., contract depth 3,200 ft. — Top salt 925 ft.; 8-in. casing set 2,025 ft.; drlg. 2,510 ft.

POSITIVE LUBRICATION





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WITH "Oilwell" Oil Bath Twin Cylinder Engines positive and constant lubrication is assured, and changes of oil need be made only at long intervals.

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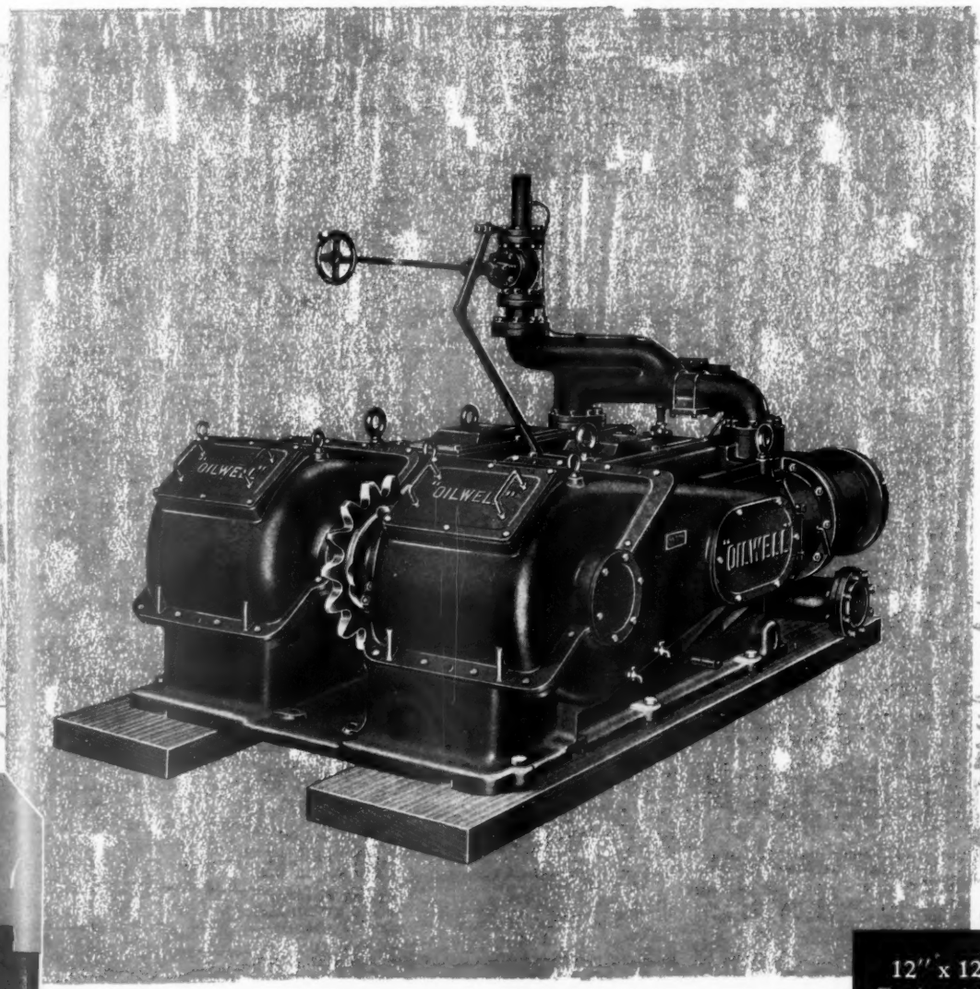

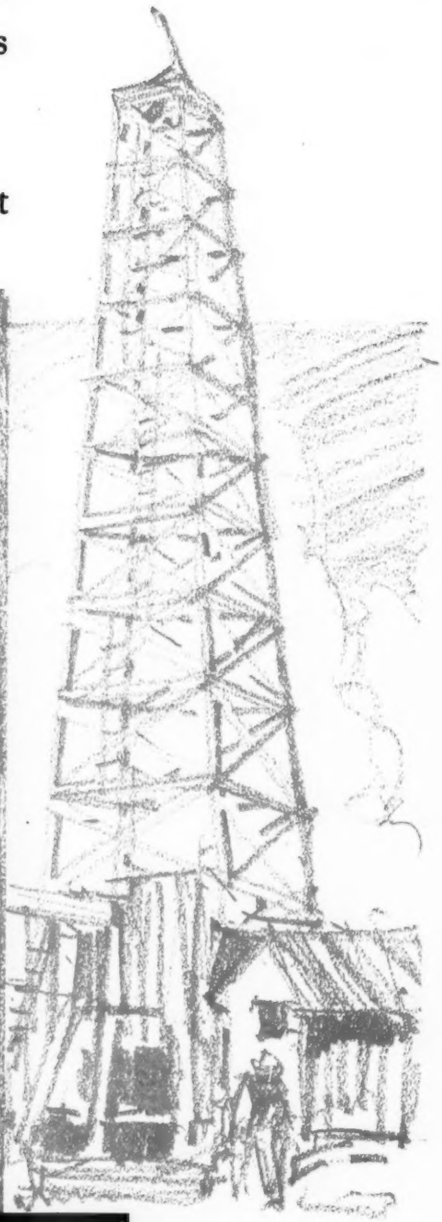

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BRANCH STORES
IN ALL OIL FIELDS

HOWARD COUNTY

Andrews & McCamey's No. 1 Neal, 200 ft. S and W of NE cor. Sec. 17, Blk. 32, Twp. 1s ..... Drlg. 1,015 ft.

Bristow & Merrick's No. 3 Dora Roberts, 1,650 ft. E and 330 ft. N of SW cor. Sec. 137, Blk. 29..... Shut down 1,973 ft.

W. W. Donnelly et al's No. 1 Clay, SW cor. W half NE Sec. 127, Blk. 29, W.&N.W..... 700 ft. oil in hole from 1,919-27 ft.; 8 bbls. water 2,635-50 ft.; sulphur water 3,040 ft.; drlg. 3,094 ft.

F. H. E. Oil Co. et al's No. 3 Dora Roberts-B, 990 ft. S, 2,310 ft. E of NW cor. Sec. 137, Blk. 29, W.&N.W... Top pay 1,432 ft.; top lime 2,100 ft.; shut down 2,600 ft.

F. H. E. Oil Co.'s No. 5 Dora Roberts-B, 1,650 ft. N, 2,310 ft. W of SE cor. Sec. 137, Blk. 29, W.&N.W... Location.

F. H. E. Oil Co. et al's No. 7-B Dora Roberts, 330 ft. S and E of NW of Sec. 137, Blk. 29 ..... Location.

F. H. E. Oil Co.'s No. 5-D Dora Roberts, 2,310 ft. S and 1,650 ft. E of NW cor. Sec. 136, Blk. 29 ..... Spudding.

Green Oil Co.'s No. 3 Clay, 250 ft. S and 660 ft. E of SE Sec. 127, Blk. 29, W.&N.W..... Shut down 1,630 ft.

Green Oil Co. et al's No. 1 J. W. Furrh, C SW cor. Sec. 11, Blk. 31 ..... Location.

L. C. Harrison et al's No. 1, G. M. Podge Est., SE cor. Sec. 9, Blk. 30, T-1-S, T.&P. Sur..... Hole full salt water 1,475-1,505 ft.; top lime 1,825 ft.; fishing 2,422 ft.

Henshaw Oil Corp.'s No. 2 Settles, Lease A, 1,884 ft. E and 1,093 ft. S of NW cor. Sec. 6, Blk. 32, Twp. 2s .. Location.

Henshaw Oil Corp.'s No. 3 Settles, Lease A, 1,884 ft. E and 1,750 ft. S of NW cor. of Sec. 6, Blk. 32, Twp. 2s ..... Location.

Virgil Hicks et al's No. 1 Read, C NW Sec. 12, Blk. 31, Twp. 1n, T.&P. Sur. ..... Drlg. 2,905 ft.; top lime 2,650 ft.; set 8¼-in. casing 3,235 ft.; gas show 3,510 ft.; shut down 4,004 ft.

Hyer & Yates' No. 1 Clay, 330 ft. S and E of NW cor. W half NE Sec. 155, Blk. 29..... Shut down 1,546 ft.

Louisiana Oil & Ref. Corp.'s No. 1 Kloh & Rumsey, 2,970 ft. E and 2,310 ft. S of NW cor. Sec. 3, Blk. 32, T-2S, T.&P.R.R. Sur..... Shut down 1,537 ft.

Magnolia Pet. Co.'s No. 11 Kelly-Chalk, 1,650 ft. S and 330 ft. E of NW cor. Sec. 124, Blk. 29, W.&N.W.R.R. Sur..... Shut down 925 ft.

Magnolia Pet. Co.'s No. 10 Dora Roberts, 330 ft. E, 2,310 ft. N of SW cor. Sec. 136, Blk. 29, W.&N.W. Sur. ..... Shut down 2,921 ft.

Magnolia Pet. Co.'s No. 11 Dora Roberts, 905 ft. N, 330 ft. E of SW cor. Sec. 136, Blk. 29, W.&N.W. Sur. ..... Rigging up standard tools 2,450 ft.

Magnolia Pet. Co.'s No. 12 Dora Roberts, 1,650 ft. N, 330 ft. S of SW cor. Sec. 136, Blk. 29, W.&N.W. Sur. ..... Location.

Magnolia Pet. Co.'s No. 13 Dora Roberts, 2,440 ft. N and 1,650 ft. E of SW cor. Sec. 136, Blk. 29, W.&N.W. Sur. ..... Drlg. 1,630 ft.

Magnolia Pet. Co.'s No. 14 D. Roberts, 990 ft. N and 2,310 ft. W Sec. 157, Blk. 29..... Rigging up rotary.

Magnolia Pet. Co.'s No. 15 D. Roberts, 2,310 ft. S and W Sec. 157, Blk. 29, W.&N.W..... Drlg. 1,120 ft.

Marland Oil Co.'s No. 9 Clay-A, 250 ft. S and E NW cor. NE NW Sec. 139, Blk. 29..... Drlg. 1,208 ft.

Marland Oil Co.'s No. 2 Clay-G, 250 ft. N and E of SW SE SW Sec. 126, Blk. 29 ..... Drlg. 1,320 ft.

Marland Prod. Co.'s No. 1 Dora Roberts, SW cor. Sec. 128, Blk. 29, W.&N.W..... Underreaming 1,200 ft.

Marland-Texon's No. 5-A Settles, 2,310 ft. N and 330 ft. E of Sec. 135, Blk. 29 ..... Drlg. 2,710 ft.; top pay 2,495 ft.; top lime 2,025 ft.

Merrick & Bristow's No. 3 D. Roberts, 1,650 ft. E and 330 ft. N of SW cor. Sec. 137, Blk. 29..... Shut down 1,953 ft.

Midwest Exp. Co.'s No. 2 Clay-A, 1,070 ft. E and 250 ft. S of NW cor. Sec. 139, Blk. 29, W.&N.W. Sur. ..... Drlg. 915 ft.

Phillips-Marland Prod. Co.'s No. 1 Thomas, 330 ft. S and E of NW cor. Sec. 13, Blk. 33, T.&P..... Location.

Sun Oil Co.'s No. 3 W. R. Settles, 330 ft. W, 2,310 ft. N of SE cor. Sec. 135, Blk. 29..... Set 16-in. casing 250 ft.; underreaming 865 ft.; oil show 1,800 ft.; oil show 2,345 ft.; 1 bailer per hour 2,345-55 ft.; drlg. 2,890 ft.

Taylor-Link Oil Co.'s No. 1 Kloh-Rumsey, 330 ft. N and 2,310 ft. E of SW cor. Sec. 3, Blk. 32, T.&P.R.R. Sur. Drlg. 1,857 ft.

Texon & Marland's No. 2 W. R. Settles-A.. ..... Total depth 2,600 ft.; shot 280 qts. 2,480-2,600 ft.; 1,000 ft. of oil in hole; pumping; 126 bbls. first 24 hrs. and 40 bbls. fifth day; drlg. 2,915 ft.

Texon O. & L. Co.'s No. 1 Quinn, 330 ft. N and W of SE cor. Sec. 11, Blk. 34, Twp. 1s ..... Location.

Witherspoon & Glasscock's No. 1 Settles, 330 ft. S and 2,970 ft. W, Sec. 6, Blk. 32, T.&P. Sur..... Spudded with machine and shut down.

HUDSPETH COUNTY

American Land Co.'s No. 1 Lockhart and Roseborough, C SE Sec. 5, School Blk. 21..... Shut down 260 ft.

California Co.'s No. 1 University, 3,821 ft. N and 2,554 ft. E of SW cor. Sec. 19, Blk. E..... Moving in material.

Western States Oil Co.'s No. 1 Moore, C SE Sec. 16, Blk. 71, Twp. 6, T.&P. Sur..... Drlg. 2,470 ft.

Western States Oil Co.'s No. 1 Gardner & Moseley, NE NW Sec. 12, Blk. 18..... Total depth 2,945 ft.; hole full water 2,945 ft.; underreaming 8¼-in. casing at 2,840 ft.; trying to get water shut off; shut down 3,125 ft., orders.

IRION COUNTY

Kimbrough & Tuel's No. 1 J. M. Nutt, 1,920 ft. S, 200 ft. E of NW cor. Sec. 5, Gonzales Co. School Land.. Set 6-in. casing 1,360 ft.; shut down 1,390 ft.; show oil and gas.

Mertzon Oil Co.'s No. 1 Roach, Sec. 24, 1,380 varas W, 485 varas S of NE cor., Mat Roach Sur..... Oil show 1,522-30 ft.; shot 30 qts 1,522-30 ft.; hole full water; drlg. 1,760 ft.

Signal Oil Co.'s No. 1 Suggs, Sec. 9, Blk. H, T.C.R.R. Sur. ..... Drlg. 935 ft.

Signal Oil Co.'s No. 2 Suggs, Sec. 23, Blk. 27, H.&T.C. Sur. ..... Location.

Sun Oil Co.'s No. 1 Williams, 1,190 ft. E and 230 ft. N of SW cor. Sec. 39, Blk. 21, H.&T.C.R.R. Sur. ..... Drlg. 332 ft.

F. E. Webb et al's No. 1 J. M. Nutt ..... Shut down 2,026 ft.

Wesley West et al's No. 1 J. D. Suggs, SE NW SE Sec. 19, Blk. 7, H.&T.C. Sur..... Drlg. 2,150 ft.

C. J. Wrightsman's No. 1 Sawyer, 1,320 ft. from N and W lines Sec. 3,032, Blk. 24, H.&T.C..... Location.

JEFF DAVIS COUNTY

J. K. Hughes Dev. Co.'s No. 2 Means, 1,622 ft. N line 600 ft. W line Sec. 345, Blk. 4, H.&T.C..... Shut down 3,185 ft.

JONES COUNTY

Atkinson & Sandifer's No. 1 Hudspeth, 300 ft. S of CNL Sec. 22, Miles Sur. ..... Rig.

Campbell & Clark's No. 1 E. Dickinson, 660 ft. N and 330 ft. E of SW cor. N 320 ac. of S 480 ac., H. B. Williams Sur. No. 273.. ..... Drlg. 2,455 ft.

K. P. Campbell et al's No. 1 Berry, 660 ft. S and E of NW cor. of N 80 ac. of E 160 ac. of N half Sec. 15, Blk. 2, E.P.R.R. Sur. ..... Drlg. 1,232 ft.

Cranfill & Reynolds and others' No. 1 Bickley, 510 ft. N and 150 ft. E of SW cor. Sec. 50, Blk. 18, T.&P. Sur. ..... Spudding.

Cosden & Herbert Oil Co.'s No.1 Bickley, 320 ft. N and 319 ft. E of SW cor. S half of NW Sec. 50, Blk. 18, T.&P. Sur. ..... Rig.

Cosden & Herbert Oil Co.'s No. 2 Bickley, 330 ft. S and 319 ft. W of NE cor. of S ½ of NW Sec. 50, Blk. 18, T.&P. Survey ..... Drlg. 449 ft.

E. L. Evans' No. 1 S. W. King, Manuel Bueno Sur. No. 197 ..... Fishing 1,825 ft.

Hines et al's No. 1 J. E. Saunders, 150 ft. S and 1,500 ft. E of NW cor. Sec. 1, Blk. 15, T.&P..... Drlg. 2,142 ft.

Eastland Oil Co. and White Eagle Oil Co.'s No. 1 Derrick, 200 ft. S and W of NW cor. Sec. 53, Blk. 18, T.&P.R.R. Sur..... Drlg. 2,286 ft.

McMan Oil & Gas Co.'s No. 1 Bickley, 2,320 ft. W and 1,650 ft. S of NE of Sec. 50, Blk. 18, T.&P. Sur. ..... Rig.

Mook Texas Co.'s No. 1 Creight, 330 ft. S and E of NW cor. of E 100 ac., Scatlorn Sur. A-301..... Drlg. 2,400 ft.

Phillips Pet. Corp.'s No. 6 J. R. Walling, 1,635 ft. E and 330 ft. S of NW cor. S half Sec. 19, Blk. 19, T.&P. .. Drlg. 1,805 ft.

Phillips Pet. Co.'s No. 4 J. C. Mason, 993 ft. N and 330 ft. E of SW cor. W half NE Sec. 18, Blk. 19, T.&P. Sur. ..... Drlg. 2,285 ft.

Phillips Pet. Co.'s No. 1 R. E. Windham, 330 ft. N and W of SE Sec. 17, Blk. 19 ..... Location.

Richardson Bros.' No. 1 Mrs. M. A. Martin, C E 80 acres, N half Sec. 13, J. Weihl Sur. No. A-468 ..... Location.

Roberts Oil Corp.'s No. 2 A. T. Smith, 330 ft. N and E of SW cor. 40-acre tract, Sec. 51, Blk. 18, T.&P. Sur. ..... Fishing 610 ft.

Roberts Oil Corp.'s No. 3 A. T. Smith, 330 ft. N and W of SE cor. 40-acre tract Sec. 51, Blk. 18, T.&P. Sur... Rig.

Roeser & Pendleton's No. 1 Grayson-B, 330 ft. N and 288 ft. W of SE cor. of J. H. Grayson Sur. 3-A-1,771.. Drlg. 1,010 ft.

Roeser-Pendleton et al's No. 1-B Higgs, 200 ft. S and W of NE cor. of S 100 ac. of Higgs' 200-ac. tract, E half of Sec. 30, W. T. Scott Sur..... Shut down 1,814 ft.

Sinclair Oil Co.'s No. 1 Buckley, 330 ft. S and 315 ft. E of NW N half NE Sec. 50, Blk. 18, T.&P. Sur..... Drlg. 841 ft.

Sinclair O. & G. Co.'s No. 2 Bickley, 975 ft. S, 320 ft. E of NW cor. N half NE cor. Sec. 50, Blk. 18, T.&P. R.R. Sur. ..... Rig.

Snowden & McSweeney's No. 2 Bickley, 330 ft. S and 959 ft. W of NE cor. of N half of NW Sec. 50, Blk. 18, T.&P. Sur. ..... Cleaning out 610 ft.

Snowden & McSweeney's No. 3 Bickley, 970 ft. S and 319 ft. W of NE of N half of NW of Sec. 50, Blk. 18, T.&P.R.R. Sur. ..... Cleaning out 725 ft.

W. G. Stough et al's No. 1 J. P. Willis, J. C. Patterson Sur. No. 2..... Shut down 1,740 ft.

The Texas Company's No. 1 Camp, 330 ft. N and 990 ft. E of SW cor. 194.5-acre tract in Sec. 13, Blk. 19, T.&P.R.R. Sur. ..... Drlg. 600 ft.

The Texas Company's No. 2 Carter, 812 ft.N and 330 ft. E of SW of Laura Carter Sur., Sec. 13, Blk. 19, T.&P. Sur. ..... Drlg. 820 ft.

Woods & Williams' No. 1 M. A. Parr, about 500 ft. S and E of NW cor. G. A. Kirkland Sur. A-567 ..... Drlg. 500 ft.

W. W. Zingery et al's No. 1 J. T. Thomas, 250 ft. S and 103 ft. W of extreme NE cor. Sec. 13, Blk. 19 ..... Location.

KENT COUNTY

J. S. Cosden & Co.'s No. 1 Wallace, Sec. 56, Blk. 98, H.&T.C. Sur..... Shut down 2,550 ft.

Phillips Pet. Co.'s No. 1 Sandell, 330 ft. N and E of SW cor. of SE of Sec. 429, Blk. D, H.&T.C. Sur..... Hole full water 3,320 ft.; set 6-in. casing 3,951 ft.; drlg. 3,970 ft.

KNOX COUNTY

Deep Rock Oil Co.'s No. 1 Moore..... Shut down 2,495 ft. for repairs.

Deep Rock Oil Co.'s No. 1 Big Four, 1,270 ft. S and 2,500 ft. W of NE cor. Sec. 21, Blk. 4..... Shut down 4,516 ft.; hole full of water.

LOVING COUNTY

Lockhart & Co.'s No. 2 Allen, 330 ft. NW and 330 ft. NE Sec. 82, Blk. 33, H.&T.C..... Rigging up standard tools 410 ft and shut down.

Lockhart & Co.'s No. 1-A Lepp, Sec. 85, Blk. 33..... Set 6-in. casing 3,950 ft.; oil show 4,095-4,135 ft.; 250,000 ft. gas cleaning out 4,178 ft.; 2,000,000 ft. gas 4,172-75 ft.; top black lime 4,095 ft.; total depth 4,280 ft.; fishing for tools.

Lockhart et al's No. 1 Wheat & Ramsey, 1,650 ft. NW and 990 ft. SW Sec. 83, Blk. 1, W.&N.W.R.R. Sur..... Top salt 1,120 ft.; drlg. 1,390 ft.

MENARD COUNTY

Carpenter & Robbins' No. 1 Kothman, NW cor. SW SW Sec. 22..... Shut down 600 ft.

J. C. Barnett and T. H. Drake's No. 1 Callan City Co. Ranch, Sec. 22..... Shut down 1,328 ft.

Panhandle O. & R. Co.'s No. 1 G. P. Eckardt, C SW Sec. 10, Blk. 2, T.W.N.G.R.R Sur..... Total depth 3,002 ft.; top pay 3,001 ft.; 2,000 ft. fluid in hole 1,100 ft.; drlg. 3,018 ft.

Renfro et al's No. 1 J. Davis, C NW SW Sec. 79, Jacob Brecker Sur..... Shut down 950 ft.

Sorrels & Jackson's No. 1 F. Wilhelm, C NE Sec. 6, Blk. C, Brooks & Burleson Sur..... Shut down 700 ft.

MIDLAND COUNTY

Shelton et al's No. 1 Kloh & Rumsey, 600 ft. N and E of SW cor. Sec. 13, Blk. 40, T-4-S, T.&P.R.R. Sur.. Top salt 1,800 ft.; drlg. 2,350 ft.

Shoup et al's No. 1 Roy Parks, C NW Sec. 34, Blk. 41, Twp. 2s, T.&P..... Top salt 1,700 ft.; cem. 8⅛-in. casing 2,770 ft.; show oil 3,330 ft shut down 4,004 ft.

MITCHELL COUNTY

E. P. Campbell et al's No. 1 Pond, 1,065 ft. W, 660 ft. N of SE cor. Sec. 79, Blk. 27, T.&P. Sur..... Shut down 600 ft.

Clopton & Hammond's No. 1 McKenzie, 1,320 ft. N and E of Sec. 3, Blk. 1-A, E.&T.C.R.R. Sur..... Location.

Hucony Gas Co.'s No. 1 C. Weichsel, 2,310 ft. N and 990 ft. E of SW cor. Sec. 78, Blk. 26, T.&P. Sur.. Top lime 1,342 ft.; shut down 1,349 ft.

Owen & Sloan Oil Co.'s No. 1-B Brown, 330 ft. N and E of SW cor. Sec. 93, Blk. 26, T.&P. Sur..... Shut down 1,101 ft.

Teas & Wheeler's No. 1 Radford, 1,320 ft. N and W of Sec. 1, Blk. 27, T.&P. Sur..... Drlg. 115 ft.

NOLAN COUNTY

Herbert Oil Co.'s No. 1 Pepper, C of N half Sec. 32, Blk. 22, T.&P. Sur..... Drlg. 2,450 ft.

PECOS COUNTY

Alexander & Lyle's No. 1 Myrtle Sellman, C SW SE Sec. 20, Blk. Z, T.C. Ry. Sur..... Top salt 814 ft.; top lime 1,620 ft.; shut down 1,629 ft.; small oil show.

Amerada Pet. Corp.'s No. 1 Johns, 330 ft. S & W of NE cor. Sec. 20, Blk. 140, T.&St.L.R.R. Sur..... Top lime 1,210 ft.; drlg. 1,580 ft.

George Anderson's No. 1 University, C Sec. 11, Blk. 17.. Top salt 1,030 ft.; shut down 1,880 ft.

Bob Elmore's No. 2 Holmes, SE cor. Sec. 45, Blk. 1, I.&G.N. Sur..... Shut down 2,140 ft.

M. C. Dibble & Hale's No. 1 Bonebrake, Sec. 115, Blk. 8, H.&G.W. Sur., elev. 2,555 ft..... Top lime 1,305 ft.; shut down 1,575 ft.

Ditto Oil Co.'s No. 1 J. M. Montgomery, Sec. 104, Blk. 331, A16,387..... Shut down 500 ft.

A. T. Fletcher's No. 1 Winfield, 3,140 ft. N and 500 ft. E of SW cor. Sec. 11, Blk. 132, T.&St.L.R.R. Sur..... Small show oil and gas 615 ft.; fishing 630 ft.

Kirby Pet. Co.'s No. 1 University, NE cor. Sec. 36, Blk. 24, University Land ..... Top lime 1,305 ft.; shut down 1,360 ft.

Mauch & Kroger's No. 1 Holmes, Sec. 5, Blk. 178, T.C. Sur. ..... Shut down 1,005 ft.

McDonald et al's No. 1 A. A. Parsell, C NW SE Sec. 28, Blk. A, G.C.&S.F.R.R. Sur..... Shut down 100 ft.

Moncrief & Zoch et al's No. 1 Union Land, C Sec. 35, Blk. 13, H.&G.N.R.R. Sur. ..... Rigging up.

Olean Pet. Corp.'s No. 1 Harrell, Sec. 98, Blk. A-9, T.C.R.R. ..... Top salt 845 ft.; shut down 1,361 ft. for orders.

Pecos Valley Oil Co.'s No. 1 Fee, Sec. 22, Blk. 16, H.&G.N. Sur..... Fishing 885 ft.

B. J. Spikes' No. 1 George Brown..... Shut down 700 ft.

Rio Pecos Oil Co.'s No. 1 Yates, 330 ft. S and E of NW cor. Sec. 543, Blk. 1, H.&G.N. ..... Moving in material.

Roxana Pet. Corp.'s No. 11 J. H. Tippett, 982 ft. N and 2,345 ft. W of SE cor. Sec. 102, Blk. 194, G.C.& S.F.R.R. — Location.

Roxana Pet. Corp. and Kirby Pet. Co.'s No. 1 University, Sec. 23, Blk. 26 — Hole full sulphur water 1,400-50 ft.; shut down 3,070 ft.; set 8-in. casing 3,065 ft.; drlg. 3,462 ft.; sulphur water 3,195 ft.; shut down 4,002 ft.

Schumaker et al's No. 1 Williams et al, 330 ft. N of middle of S line, Sec. 1, Blk. 117, G.C.&S.F. — Spudded and shut down.

Southern C. O. P. Co.'s No. 1 Scharbauer Cattle Co., SW cor. Sec. 21, Blk. 134, T.&St.L. Sur. — Show gas 1,455-60 ft.; total depth shut down 2,964 ft.

Transcontinental Oil Co.'s No. 1 University, NE NW SW Sec. 18, Blk. 18 — Top lime 1,155 ft.; straightreaming 4,130 ft.

World Oil Co.'s No. 1 Kloh, Sec. 47, Blk. 45, Twp. 8, T. P. R.R. Sur., elev. 2,810 ft. — Shut down 3,105 ft.

Paul Whonlick et al's No. 1 Arnold, 500 ft. each way from NW cor. Sec. 25, Blk. 1 — Drlg. 1,365 ft.

PRESIDIO COUNTY

Phillips Pet. Co., Empire G. & F. Co., Delmar Oil Co. and C. E. Miller's No. 1 Tootle Est., C NE Sec. 75, Blk. 3, D.&P.R.R. Sur. — Fishing 690 ft.

L. C. Brite's No. 1 Lee, Sec. 50, Blk. 12, G.H.&S.A. Sur., center of section — Drlg. 1,310 ft.

REAGAN COUNTY

Empire Gas & Fuel Co.'s No. 1 Sawyer Cattle Co.-A, 4,160 ft. from S line and 330 ft. from W line of Sec. 18, Blk. A, Leonard G. Gee Sur. — Total depth 220 ft.; skidding rig.

Texon O. & L. Co.'s No. 1-B University Group 1 — Top pay 6,250 ft.; hole full of oil; well made two small heads; drlg. 8,340 ft.

Skelly Oil Co.'s No. 3 University, 2,310 ft. N and E of SW cor. Sec. 33, Blk. 8, University Land — Location.

REEVES COUNTY

D. P. Davis et al's No. 1 H. C. McCart, 300 ft. S and 200 ft. W of NE cor. S half NW Sec. 26, Blk. C-18 — Shut down 25 ft.

Exploration Co.'s No. 1 A. A. Kinney, 1,500 ft. W of NE cor. Sec. 26, Blk. C-18, Public School Land, elev. 2,847 ft. — Total depth 2,900 ft.; to start up soon.

David R. Thompson's No. 1 A. A. Eddins — Swedging csg. 5,658 ft.; pulling 5-in. csg.

World Oil Co.'s No. 1 A. L. Duff, 1,500 ft. from S, 850 ft. from NE. R. S. Johnson Sur. No. 68 — Elev. 2,774 ft.; total depth 4,515 ft.; plugged back 4,223 ft.; hole full fluid, slopping 1 bbl. of oil daily.

RUNNELS COUNTY

Agnew & Sons, Inc., No. 1 R. R. Russell, in Mrs. H. Bolbien Sur. No. 13½ — Set 6-in. casing 3,300 ft.

Gibson & Johnson's No. 1 W. H. Rainwater, 660 ft. N and E of SW cor. of J. H. San Miguel Sur. (cor. location for No. 1 Harris) — Shut down 2,505 ft.

R. D. Hamilton et al's No. 1 A. Spill, 1,320 ft. S and W of NE cor. A. Spill 891 acres, out of Thomas R. Webb Sur. No. 358 — Shut down 100 ft.

Jones Oil Syndicate's No. 1 W. Dale, 212 ft. from N line, 150 ft. from W line Sec. 109, E.T.R.R. — Shut down 2,245 ft.

McLean et al's No. 1 G. W. Clayton, 150 ft. N line, 270 ft. from W line Sec. 135, E.T.R.R. — Shut down 1,185 ft.

Nourse & Tilton's No. 1 R. A. Cramer, 200 ft. S, 600 ft. E of NW cor. G.C.&S.F. Sur. No. 2 — Shut down 100 ft.

Kennedy et al's No. 1 J. E. Tally, 1,200 ft. from N line, 800 ft. from E line Sec. 534, V. V. McKenon — Shut down 3,007 ft.

Giles Oil Co.'s No. 1 L. S. Lawhon, NE cor. Sec. 68 — Show gas 960-80 ft.; shut down 2,450 ft.

Pure Oil Co.'s No. 1 Herman Kiescke, 9,250 ft. S and 1,490 ft. W of NE cor. of J. Smith Sur. No. 228 — Made 4 bbls. water per hr. 760-65 ft.; underreaming 12¼-in. casing 1,285 ft.; drlg. 2,850 ft.

R. B. Summers et al's No. 1 J. W. Reese, M. J. Parramore Sur. 26 — Shut down 1,650 ft.

Union Oil Co. of Nevada's No. 1 W. E. Allen, 1,000 ft. N and W of SE cor. Sec. 1, H.E.&W.T. Sur. — Location.

Vacuum Oil Co.'s No. 3 McMillan, 561 ft. E of No. 1 Domingo Diaz Sur. — Set 10-in. casing 1,447 ft.; drlg. 2,012 ft.

SCHLEICHER COUNTY

J. F. Long and O. C. Long's No. 1 W. H. Williams, NE cor. Sec. 28, H.E.&W.T.R.R. Sur. — Shut down 275 ft.

SCURRY COUNTY

Landreth Prod. Co.'s No. 1 Hillmer, 330 ft. N and E of Sec. 75, Blk. 25, H.&T.C.R.R. Sur. — Drlg. 1,495 ft.; top salt 870 ft.

J. B. Mims et al's No. 1 J. J. Koonsman, Sec. 216, Blk. 2, H.&T.C. Sur. — Total depth 300 ft.

O. E. Dieckman and R. B. Pender et al's No. 1 F. C. Davis, 1,000 ft. N and 1,770 ft. W of SE cor. of Sec. 275, Blk. 2, H.&T.C. Sur. — Drlg. 200 ft.

STERLING COUNTY

T. & G. Oil Co.'s No. 1 W. L. Foster, C SE Sec. 20, Blk. 12, S.P.R.R. Sur. — Shut down 616 ft.

Orr et al's (to be taken over by Empire G. & F. Co.) No. 1 Neal Reed, CNL Sec. 15, Blk. 30, W.&N.W. Sur. — Shut down 3,015 ft.

STONEWALL COUNTY

Texon Oil Co.'s No. 1 Reynor, 346 ft. S and W NE cor. Sec. 26, Blk. B, H.&T.C. — Drlg. 2,135 ft., lime.

SUTTON COUNTY

Phillips Pet. Co.'s No. 1 A. G. Holman, 2,310 ft. S and 330 ft. W NE cor. Sec. 25, C.C.S.D.&N.G.R.R. Sur. — Drlg. 4,735 ft.

TAYLOR COUNTY

Burnham et al's No. 1 A. M. Y. X. — Spudded and shut down.

Brisham-Hunter Oil Corp.'s No. 1 T. L. Stevens, 220 ft. S and E of NW cor. Sec. 53, Blk. 19, T.P. Sur. — Drlg. 1,000 ft.

Burley Oil Co.'s No. 1 Mrs. A. R. Payne, 330 ft. N and E of SW cor. E 80 acres of NW Sec. 52, Blk. 19 — Location.

TERRELL COUNTY

Big Bend Oil Co.'s No. 1 Bassett, C NW Sec. 155, Blk. D, M.-K.-T.R.R. — Spudded and shut down.

Champlin Ref. Co.'s No. 1 Corder, C Sec. 110, Blk. 1, C.C.S.D. Sur. — Cem. crevice 3,535-40 ft.; total depth 3,552 ft.; cleaning out.

Keck Pecos Trust So.'s No. 1 Hamilton, C Sec. 6, Blk. D-7, E.L.&R.R. Sur. — Shut down 1,749 ft.

Wilham Exploration Co.'s No. 1 Bassett, Sec. 76, Blk. Y, W. E. Robertson Sur. — Cem. 6⅝-in. casing 3,986 ft.; cem. cave 4,140 ft.

Woodley & Jones, No. 1 Pankenham, C SE NW Sec. 43, Blk. B-2, C.C.S.D.&G.N.G.R.R. Sur. — Shut down 150 ft.

TERRY COUNTY

Kingsland O. & P. Co.'s No. 1 Brownfield, C NW SW SW Sec. 7, Blk. 1-A, E.L.R.R. Sur. — Underreaming 5 3/16-in. casing 4,430 ft.

TOM GREEN COUNTY

Collins et al's No. 1 Jones, CSL Sec. 646, Shaffer Sur. — Shut down 1,800 ft.

Fitzgerald & Taliaferro's No. 1 Bennett, C SW Sec. 1,628 E. H. Ringer — Shut down 1,920 ft.

W. P. Green et al's No. 1 fee, 575 ft. from N and 1,450 ft. from W lines Sec. 165, District 11, S.P.R.R. Co. Sur. — Shut down 1,066 ft.

Lone Eagle Oil Co.'s No. 1 Sharp, SE W Elzel Sur. No. 167 — Spudded and shut down.

McLaughlin & Ridge's No. 1 R. Q. Holder, 3,140 ft. N and 80 ft. W SE cor. J. P. Parker Sur. (3,000-ft. test) — Show gas 1,757-59 ft.; shut down 3,005 ft.; hole full water 2,986 ft.

Tinker et al's No. 1 D. J. Jones, 150 ft. N and 4,250 ft. W of SE cor. J. J. Schaefer Sur. 646 — Shut down 1,800 ft.

Tulsa Oil Co.'s No. 1 Adams, C SW Sec. 163, Blk. 11, S.P.R.R. Sur. — Shut down 1,050 ft.

UPTON COUNTY

Humble O. & R. Co.'s No. 9 Ricker, 5,574 ft. N and 2,271 ft. W Sec. 5, M. S. Denton Sur. — Set 6-in. casing 490 ft.; top salt 640 ft.; top lime 2,145 ft.; drlg. 2,314 ft.

Keck Investment Co.'s No. 1 H. L. McClintic, 330 ft. S and W NE cor. Sec. 206, Blk. F, C.C.S.D.&R.G.N.G Sur. — Rig.

VAL VERDE COUNTY

Independent Operators' No. 1 Whitehead, SE SE Sec. 30, Blk. 4, I.&G.N. Sur., elev. 1,175 ft. — Drlg. 4,200 ft.

O. O. Owens' No. 1 Mills, Sec. 128, Blk. 1, I.&G.N. Sur., elev. 2,130 ft. — Gas sand 2,491-2,520 ft. tested 125,750 ft. gas; reset 8-in. 2,511 ft.; shut down 4,210 ft.

Producers Oil Co. et al's No. 1 Everett Bros., 2,310 ft. S and 330 ft. E of NW cor. Sec. 40, Blk. DB, C.C.S.D.R.G.N.G. Sur. — Location.

W. B. Thraves et al's No. 1 W. E. Wilson, 6,830 ft. N NE cor. Sec. 1, T.&P., thence 1,680 ft. E Sec. 115, Blk. E, G.C.&S.F. — Show oil and gas 1,055 ft.; drlg. 1,175 ft.

Valvert Oil Corp.'s No. 1 Bassett, C NE Sur. 47, Blk. Y. — Set 15½-in. casing 767 ft.; drlg. 1,000 ft.

WARD COUNTY

Denver P. & R. Co.'s No. 1 Cherokee Land & Investment Co., 990 ft. from NEL and 2,310 ft. from SEL Sec. 215, Blk. 34, H.&T.C. Sur. (4,000-ft. test) — Set 8¼-in. casing 2,505 ft.; top salt 2,755 ft.; shut down 3,160 ft., anhydrite.

E. B. Lovelace et al's No. 1 Redman, 1,980 ft. NE of SW line and 1,980 ft. SE of NW line, Sec. 162, Blk. 34, H.&T.C.R.R. — Spudding and shut down.

Prairie Oil & Gas Co.'s No. 1 Sealy Estate, 1,320 ft. S and W Sec. 95, Blk. A, G.M.M.B.&A. Sur. — Top salt 1,073 ft.; drlg. 1,565 ft.

Rector Oil Co.'s No. 1 Johnson, 1,150 ft. NW, 5,610 ft. NE, Sec. 10, Blk. 32, H.&T.C. — Top salt 745 ft.; drlg. 940 ft.

Shipley et al's No. 1 Haziett, 2,310 ft. NE and 2,310 ft. SE Sec. 17, Blk. 5, H.&T.C. — Shut down 900 ft.

Talbot et al's No. 1 Riddle, 330 ft. S and W of Sec. 90, Blk. 5, H.&T.C.R.R. Sur. — Location.

WINKLER COUNTY

Atlantic O. P. Co. et al's No. 2 Daugherty, 2,310 ft. N and E of SW cor. Sec. 3, Blk. 74, Public School Land. — Rig.

Atlantic O. P. Co.'s No. 1 Hendricks-H, 2,310 ft. N and 1,650 ft. W of SE cor. Sec. 30, Blk. B-5, School Land. — Top lime 2,785 ft.; set 8¼-in. casing 2,788 ft.

Amerada Pet. Corp.'s No. 1 L. Daugherty, 2,310 ft. N & W of SE cor. Sec. 3, Blk. 74, Public School Land. — Rig.

V. T. Bolin et al's No. 1 Brown, Sec. 4, Blk. B-5. — Top salt 1,302 ft.; plugged back and shot 210 qts., 2,745 to 2,814 ft.; 2,000 ft. oil; pumped 42 bbls. 33.8 gravity oil in 5 hrs.; 45 ft. off bottom 200 ft. oil in hole; swabbed and pumped 17 bbls. 6 days; shot 670 qts. 2,810-3,211 ft.; no results.

V. T. Bolin et al's No. 2 Brown, 2,000 ft. S and W of NE cor. Sec. 4, Blk. B-5, Public School Land. — Rigging up rotary.

Cranfill & Reynolds' No. 1 Hendricks-F, 660 ft. S and 2,310 ft. E of NW cor. Sec. 16, Blk. 26 — Drlg. 924 ft.

Cranfill Bros. & Pickrell's No. 1 Hutchins, 2,310 ft. N and 330 ft. E of SW cor. Sec. 47, Blk. 26 — Cem. 8¼-in. casing 2,285 ft.; top lime 2,280 ft.; drlg. 2,597 ft.; 2,000,000 ft. gas 2,290 ft.

Culberson Bros.' No. 1 Hendricks, 1,650 ft. N and W of SE cor. Sec. 40, Blk. B-5, School Land. — Rigging up rotary and shut down.

Empire Gas & Fuel Co.'s No. 1 Daugherty, 990 ft. N and 1,320 ft. E of SW Sec. 3, Blk. 74, School Land. — Top lime 2,694 ft.; set 8¼-in. casing 2,694 ft.; gas show 2,810-30 ft.; total depth 2,852 ft.; 25,000 ft. gas.

Bankers Prod. Corp.'s No. 1 Ida Hendricks, 2,475 ft. S and 330 ft. from E line Sec. 30, Blk. B-5. — Top lime 2,675 ft.; set 8¼-in. casing 2,678 ft.; oil show 2,850 ft.; gas show 2,689 ft.; shut down 2,979 ft.; flowing 1,500 bbls.

Flandell & Co.'s No. 1 Carter, 640 ft. S, 330 ft. W Sec. 26, Blk. B-3. — Rig.

Humble O. & R. Co.'s No. 1 J. B. Walton-A, NW cor. Sec. 48, Blk. 26. — Derrick.

Independent O. & G. Co.'s No. 2 McCabe, 2,310 ft. S and 990 ft. E of NW cor. Sec. 36, Blk. B-5, School Land — Set 8¼-in. 2,269 ft.; total depth 2,880 ft.; pulling 6-in. csg 2,880 ft.; drlg. 3,035 ft.; top pay 2,985 ft.; spraying 40 bbls daily; oil show 2,770 ft.; plugged back 3,069 ft.; total depth 3,083 ft.

Independent O. & G. Co.'s No. 3 McCabe, 990 ft. S and 2,310 ft. W of NE cor. Sec. 36, Blk. B-5, School Land. — Top salt 950 ft.; top lime 2,290 ft.; oil show 2,515 ft.; drlg. cement 2,680 ft.

Liner Drlg. Co.'s No. 1 Seth-Campbell, NE cor. Sec. 2, Blk. B-5. — Shut down 450 ft.

Magnolia Pet. Co.'s No. 1 Scarborough, 2,310 ft. S and 990 ft. E Sec. 1, Blk. C-22. — Rigging up standard tools.

May Prod. Co.'s No. 1 Hendricks, 1,320 ft. N and 2,310 ft. W of SE Sec. 34, Blk. 26, Public School Land. — Top lime 2,449 ft.; set 6⅝-in. casing 2,455 ft.; oil show 2,710 ft.; drlg. 2,860 ft., lime.

Mining & Engineering Co.'s No. 1 T. G. Hendricks, Sec. 10, Blk. B-12. — Elevation 2,742 ft.; top lime 2,607 ft.; top pay 2,846 ft.; total depth 2,996 ft.; flowed 10 bbls. hr.

Prairie Oil & Gas Co.'s No. 1 E. W. Cowden, 2,310 ft. N and 330 ft. E of SW cor. Sec. 3, Blk. B-12. — Fishing bit 310 ft.

Sid Richardson, Frank Kelsey and White Eagle O. & R. Co.'s No. 1 Stockton Cattle Co. (O'Brien), 330 ft. S and W of NE cor. Sec. 50, Blk. F, G.M.M.B.&A. Sur. — Top salt 2,050 ft.; top lime 2,648 ft.; 6,000,000 ft. gas; cem. 5 3/16-in. casing 2,815 ft.; total depth 2,954 ft.; averaging 615 bbls. daily; pulling big pipe.

Southern C. O. P. Co.'s No. 1 Hendricks-A T-264, 1,625 ft. N and 330 ft. W of SE cor. Sec. 5, Blk. B-12, School Land. — Elevation 2,754 ft.; top lime 2,859 ft.; total depth 3,132 ft.; 200 ft. sulphur water in hole 3,125 ft.; 2,800 ft. oil in hole; drlg. 3,142 ft., sandy lime.

Southern C. O. P. Co.'s No. 3 Hendricks T-67-2-D, 1,650 ft. S and 330 ft. W of Sec. 28, Blk. 26 — Cem. 12½-in. casing 468 ft.; drlg. 1,264 ft., red bed.

Southern C. O. P. Co.'s No. 3 Hendricks T-88-T, Sec. 34, Blk. 26, Public School Land — Top lime 2,452 ft.; set 8-in. casing 2,473 ft.; drlg. 2,788 ft.

Southern C. O. P. Co.'s No. 1 Hendricks T-88-D, 2,310 ft. N and 330 ft. W of SE cor. Sec. 4, Blk. B-12, Public School Land — Drlg. 1,650 ft., lime.

Southern C. O. P. Co.'s No. 1 Hendricks T-88-R, 440 ft. N and 330 ft. E of SW cor. Sec. 27, Blk. 26, School Land — Top lime 2,274 ft.; cem. 8¼-in. 2,300 ft.; rigging up standard tools.

Southern C. O. P. Co.'s No. 2 Hendricks T-88-R, 1,320 ft. N and 330 ft. E of SW cor. Sec. 27, Blk. 26 — Drlg. 521 ft.

Southern C. O. P. Co.'s No. 2 Hendricks T-90, 440 ft. N and 330 ft. W of SE cor. Sec. 47, Blk. 26 — Rig.

Southern C. O. P. Co.'s No. 3 Hendricks T-90, 2,310 ft. N and 330 ft. W SE cor. Sec. 47, Blk. 26 — Top lime 2,329 ft.; total depth 2,778 ft.; set 6⅝-in. casing 2,751 ft.; rigging up standard tools and shut down.

Texas & Pacific C. & O. Co.'s No. 1 Daugherty, 330 ft. from S and E Sec. 4, Blk. 74 — Top salt 1,460 ft.; top lime 3,894 ft.; set 8¼-in. casing 3,893 ft.; total depth 3,242 ft.; plugged back 3,200 ft.; shot 60 qts. 3,206-14 ft.; shot 40 qts. 3,160-72 ft.; cleaning out.

EQUIPMENT AND SUPPLIES

ELECTRONIC TORNADO PRINCIPLE UTILIZED

An automatic tractor type arc welder utilizing the electronic tornado principle and used for making lap welds and butt welds on large tank bottoms and roofs, large pipe and on similar work, has been placed on the market by the Lincoln Electric Co., Cleveland, Ohio. The machine consists of an electronic tornado head mounted on a self-propelled four-wheel-drive carriage. Power is supplied through a flexible cable and all that is necessary is to line up the machine over the seam to be welded and to start the arc. The electrode and fibrous autogenizer are fed automatically as the tractor travels forward.

In making lap welds with this machine no additional filler metal is used. The heat of the carbon arc fuses the edge of the top plate into the lower plate, making a leak-proof joint. A filler strip is laid over the seam to be welded when a butt weld is desired. Advantages claimed for this machine are high welding speeds and smooth, uniform welds. Speeds on one-quarter-inch lap joints varying from 50 to 75 feet per hour are obtained. The automatic tractor welder is one of many applications of the electronic tornado principle developed by the research laboratories of the Lincoln Electric Co.

NEW BAROID PLANT IS OPENED IN ADELBERT

The National Pigments & Chemical Co., a subsidiary of the National Lead Co., has placed in operation its new plant in Adelbert, Mo., for the manufacture of Baroid, a product used in oil well drilling. The plant, with output of 60 tons a day, has been operating at capacity since it was opened. In a discussion of the product, the National Lead Co. says:

"Until recent years, no study was given to proper selection of the so-called 'mud-laden fluids' used in sealing the oil well while the drilling is going on to prevent leakage and escape of gas with the consequent danger of explosion and fire. By using, for mud-laden fluids, such materials as come to hand in penetrating the formations, many oil and gas wells have been successfully drilled, but where heavy gas pressures are encountered, experience has amply proved that the average mud is far from sufficient in weight and wall building properties to be sure of keeping the pressure in control.

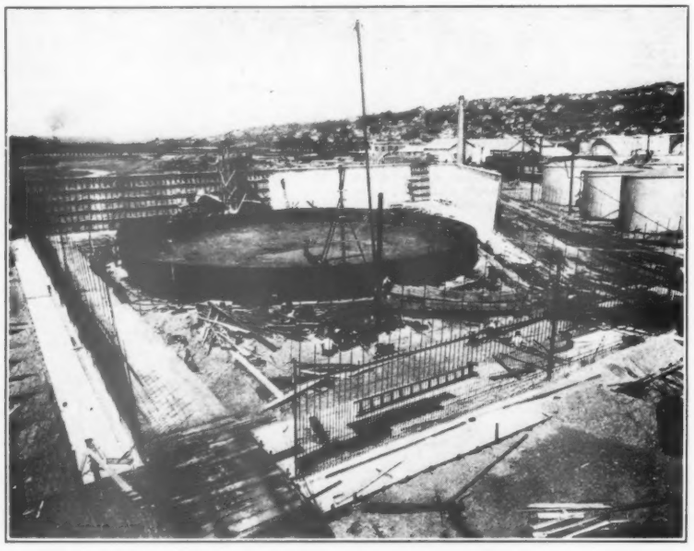
"Where heavy pressures are expected, it is the usual practice for the driller to 'make heavy mud.' This he does by simply thickening up the mud in the slush pit, but in reality the specific gravity of the mud is raised only slightly, while the viscosity is very materially increased."

LINCOLN ANNOUNCES CHANGES

The Lincoln Electric Co. of Cleveland, Ohio, announces the opening of a San Francisco office at 533 Market Street in charge of W. S. Stewart. A complete stock of "Line-Weld" motors and "Stable-Arc" welders and arc welding supplies is carried. L. P. Henderson, formerly of the Chicago office, has been put in charge of the Minneapolis district. Robert Notvest has been transferred from Kansas City to Indianapolis where he will have charge of the Indianapolis district. R. E. Mason has been sent to Kansas City to replace Mr. Notvest. N. L. Nye has been stationed at Akron, Ohio, under R. P. Tarbell, manager of the Cleveland district.

CONCRETE FIRE WALL BUILT FOR BIG STORAGE TANK

Building a concrete fire wall around a large storage tank on a hydraulic fill was the problem which confronted the Richfield Oil Co. at Seattle recently. The illustration shows the wall under construction. To prevent tipping and to reduce the tendency to settle a concrete footing was put down 18 inches thick and 17 feet wide. In the footings a 1:2¼:3¾ mix was used with 7 pounds of celite per cubic yard of concrete, consistency being maintained at a slump of about 6½ inches. Twenty-eight-day strengths on these footings averaged 2,557 pounds.



The wall is 20 feet high, 2 feet 4 inches thick at the bottom, tapering to 7 inches thick at the top. Approximately 100 pounds of steel per yard of concrete was used.

Sectional forms were used, consisting of six 10-foot section, or 60 feet of wall. Each 60 feet was poured in one day. The forms were removed the following morning and set up for the next pour, so that a 60-foot section was poured every other day. On an average the forms were removed in less than 24 hours and no trouble followed this early removal of forms.

In the walls a 1:2:4 mix was used with 16 pounds of Celite per cubic yard of concrete, the concrete being placed with a slump of about 6½ inches. A very workable concrete was obtained as will be realized from the fact that only three men were needed for rodding this 60 feet of wall. Satisfactory strengths were obtained, averaging 2,650 pounds at 28 days. The concrete was dumped from the trucks into a hopper, hoisted up a tower and dumped directly into the wall. A traveling crane was used during one day's pour while the tower was out of commission. Only 18 days were required for the entire job, a total of 1,600 cubic yards of concrete being placed.

NEW PORTABLE WELDER HAS MANY ADVANTAGES

The Fusion Welding Corp., Chicago, announces a new gas engine driven welder which, according to the manufacturer, can be taken wherever a motor car can be driven. The front wheels, being jointed to the handle, turn as the handle turns. The center of gravity is low and the machine will not overturn when taken across rough ground. This portable Fuzon welder is recommended by the manufacturer for pipe line work, where the welder must go along no matter what kind of country is traversed; for repair jobs in places not readily accessible, where the welder must provide its own power after it gets there. This welder can be hitched to any kind of motor car and pulled to the job.

There is said to be no "vanishing" of the arc, no matter how hard it is pushed. Quick changes in arc length do not discourage this welding arc. It accommodates itself and the metal keeps on depositing. A patented method of interpole connections in the generator puts an inherently stabilized current into the welding line and gives the Fuzon welder its unusual arc action. At the same time it makes unnecessary the use of induction coils, reactors, etc. The single brush shifting control calibrated in amperes gives an infinite number of possible current settings with arc characteristics just as favorable at the lowest as at the highest settings.

V BELTS ON COMPRESSORS

Announcement is made by Mac Irwin, vice president of the Quincy Compressor Co., Quincy, Ill., of substitution of V belts and pulleys for the flat types which have been common for years on air compressors. "While the V belt has been used on automobiles and certain industrial machinery," says Mr. Irwin, "its use on air compressors is revolutionary. Heretofore, flat belts have been generally used, with various devices, such as idlers, etc., to maintain tension. Owing to the nature of the pulley design, the V belt makes exceptionally good contact and results in higher belt efficiency."

HOUSTON COMPANY MOVES

The Maintenance Engineering Corp., Houston, Tex., has moved its office and warehouse from 200 Harrington Street to its new concrete building at 1400 Conti Street. Its stock of forged steel valves, fittings and flanges, instruments, rivets, regulators, etc., has been increased. There is 8,000 square feet of floor space in the new fireproof building.

AIRPLANE PROVES BIG HELP IN TIME OF NEED

The airplane played an important part in fighting the fire in the Getty well at Santa Fe Springs, Calif. Neil Norris, general superintendent of the Getty well, was deer hunting in the Giant Forest Reserve, 60 miles out of Visalia. His presence was essential at the fire, but the Ridge route was closed by forest fire and there was no way to reach him by ground traffic. The only man who knew where Norris could be found was Fred A. Worthy, of the Axelson Machine Co., who had accompanied him on previous hunting trips. The services of the company's new Cessna airplane were offered.

Mr. Worthy piloted by Jack Kirk and powered by the newly assembled Axelson radial motor, flew over the ridge to Visalia, was met by the Axelson Bakersfield representative in Visalia and driven by automobile 60 miles into the forest. He found Norris late at night, took him to Visalia and the return trip was made in the Axelson plane to Santa Fe Springs. Several additional planes have been ordered by the Axelson organization and all are to be powered by Axelson motors, according to J. C. Axelson, president.

COMPRESSOR MADE FOR GASOLINE EXTRACTION

The Chicago Pneumatic Tool Co., New York, has extended its line of gas engine driven compressors to include a vertical compressor especially designed for gasoline extraction and direct driven at 228 r.p.m. by a 200 B.H.P. vertical, three-cylinder, four-cycle gas engine.

The engine is directly connected to the compressor by a flexible coupling of the laminated, flexible-disc type, a drive that has been used in the oil fields for several years. The fuel consumption of this unit per 1,000,000 feet of gas delivered is said to be low and the range of gases upon which the engine will operate is wide. Special materials of noncorrosive properties have been employed in both the engine and compressor.

The compressor, designed with special features adapting it to gasoline extraction service, is for single or two-stage compression to pressures ranging from 30 to 500 pounds per square inch, with cylinder sizes proportioned to absorb the power of the 200 horsepower gas engine.

Features of the engine included removable cylinder liners, full pressure feed lubrication for bearings and two-point timed, pressure-feed lubrication for the cylinders, removable valve cages.

SHAPE CUTTING MACHINE

An automatic oxy-acetylene shape-cutting machine designed to cut shapes of any sort from steel plate, sheets, forgings, billets or ingots is being introduced by the Linde Air Products Co., New York. The cutting blow pipe is mounted on a carriage which is moved in any direction by means of an electric motor. For routine production it will operate automatically from templets. In cases where only a few parts are to be cut out a hand tracing devices can be attached and used to follow the outline of a sketch or blueprint.

The Oxweld shape-cutting machine requires only one operator. Little machinery is necessary in most cases after cutting because the parts are produced with straight corners and smooth faces. The speed of cutting ranges from 3 to 20 inches per minute, depending on the thickness of the metal.

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Wilcox Sand in Allen Pool a Surprise

Former Estimates That This Section of Oklahoma Would Produce But Very Little Oil Have Been Revised

By J. L. Dwyer

The discovery of oil production in the Wilcox sand in the Allen Field of central Oklahoma is one of the most important events in the producing branch of the industry in Oklahoma in recent years. The fact that oil has been found in this spot, necessitates a revision of former estimates of the southeast part of the State, for it had been almost unanimously held that this sector would produce little oil.

Starting with the interest which was first displayed in this area in 1919, there was an initial leasing campaign, then a let-up in interest, and then the theory was advanced that if the Wilcox sand were explored in this area, it would be found at least 9,000 feet deep. This prohibitive depth was what first scared the operators from the region.

The Wilcox sand discovery well in the Allen Field was drilled by the Sinclair Oil & Gas Co. and is No. 2 Amos-B, SE cor. NE SW, Section 7-5-8. This well found the Wilcox sand at 4,158 feet on September 16, and was drilled 2 feet into the sand. The well started flowing 37 bbls. an hour from this depth, and was pinched in by the Sinclair company when an agreement which limited drilling was reached among the owners of adjacent leases.

The importance of this well is two-fold, first on account of its position, and the fact that like many other pool openers it was in a part of the country which was previously lightly held, and second because with the Mission area west of the Bowlegs Pool, it offers the only possibility of big new production from the Wilcox sand which is in sight in Oklahoma.

From a producing standpoint this well offers a condition which is very similar to the Greater Seminole area. The depth of the Wilcox sand in both fields is practically constant, 4,100 feet. The new well was drilled with rotary tools, and the casing positions will very likely be similar to Seminole when a drilling campaign is inaugurated, for the last string will probably be set in the Viola lime which was found in the Allen well at a depth of 4,015 feet.

Pool May Be in Basin

Unlike Seminole, the new Wilcox sand pool is thought to be in a basin rather than on the flank of an uplift, and it is off the Hunton Arch which has produced so much oil throughout the Seminole-Pottawatomie County area.

The new well is 14 miles due south of the Wewoka Field, and probably will resemble that field more than it will any other Oklahoma field when the final chapters in Allen's history have been written. Like the Allen Field it has production in the Cromwell (Smith or Dutcher) sand, and also in the Wilcox sand. In the Wewoka Field, the Wilcox sand is not as extensive in area as the upper formations, and many geologists are inclined to believe that the Allen Pool will be the same in this respect.

With conditions of depth, and subsurface formations very similar with Greater Seminole, it is probable that the development of the Allen Wilcox operation will cost approximately the same as the deep wells at Seminole did.

Throughout the Allen Field the Cromwell sand is the principal producing formation; there has been a difference of 230 feet between the highest and the lowest wells based upon the top of the Wapanucka lime. The Wapanucka should be immediately above the Cromwell sand. The Sinclair's Amos well was probably drilled on a fault, for it missed the Wapanucka altogether, while wells on both sides of it encountered this stratum. Further evidence of this faulted condition might be found in the fact that the Wapanucka formation drops 300 feet in traveling from one location south of the discovery well to one location north of the discovery well.

The more shallow production in the Allen Field is roughly divided into two formations. West of the river as shown in the accompanying map, the bulk of the production comes from the Cromwell sand, while the east slope from the river is almost entirely Gilcrease sand production. For general classification both of these sands may be termed members of the Dutcher family.

The entire Allen is located on a nosing which plunges northeast from the Arbuckle uplift. The trend which Wilcox sand production will take from the discovery well is as problematical as the area which it will cover, but the general thought is that it will run south and southwest from the Sinclair well with only a limited spread to the north and northeast.

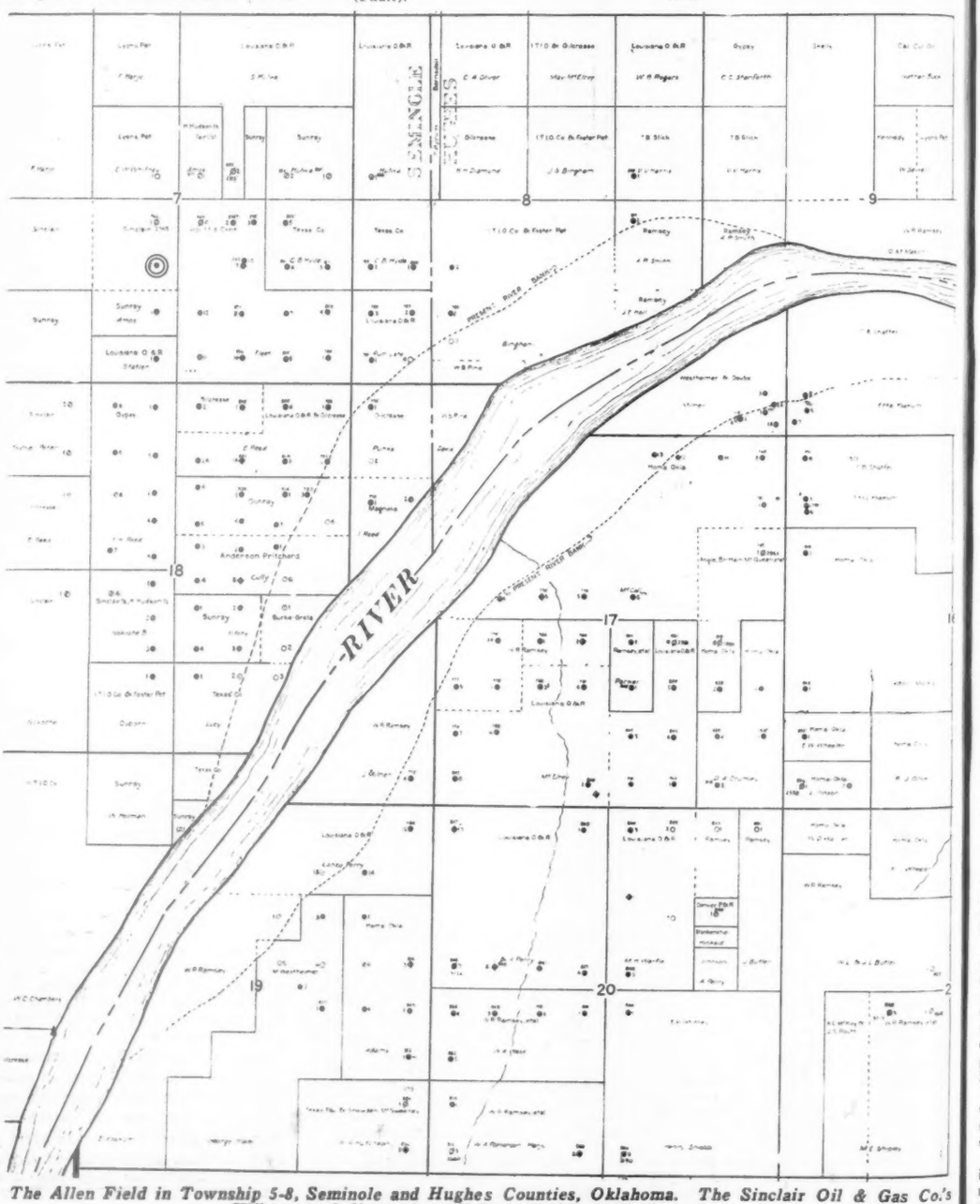
The log of the Sinclair's Amos well from the Boggy formation down, is given below:

2,200 to 2,450 ft.	Boggy shale
2,450 to 2,800 ft.	Savanna-McAlester series*
2,800 to 2,905 ft.	Cromwell sand
2,905 to 3,620 ft.	Caney shale
3,620 to 3,690 ft.	Mayes formation
3,690 to 3,910 ft.	Woodford
3,910 to 3,935 ft.	Hunton lime
3,935 to 4,015 ft.	Sylvan shale
4,015 to 4,095 ft.	Viola lime
4,095 to 4,158 ft.	Simpson sand
4,158 ft.	Top Wilcox

*(Fault).

It will be observed that the Mayes formation is not as thick as the average Mayes section in a Seminole log, but the general characteristics of the logs of Seminole and Allen are rather similar. There is a compensation in the horizons below the Boggy which tends to stabilize their entire thickness and when inspecting logs of the two fields, it will be noted that where a short section of one formation is found a much longer section of another horizon will make up the difference.

The discovery of Wilcox sand production at Allen has already been responsible for much leasing activity in the southeastern part of Hughes and the northern part of Coal and Pontotoc Counties.



The Allen Field in Township 5-8, Seminole and Hughes Counties, Oklahoma. The Sinclair Oil & Gas Co.'s Wilcox sand discovery well is marked by a double circle.

LOSE FIGHT FOR UNIFORM GAS TAX

(Continued from Page 42)

so that it may be included in the published report of this conference.

Tax in Canada

"Gasoline Tax in Canada" was the subject of an address by W. H. Brown, secretary of the Ontario Highway Commission. Mr. Brown stated that several of the provinces collected 5 cents per gallon and the remainder 3 cents. However, two of the provinces now collecting 3 cents are considering increasing their levy to 5 cents per gallon. Fifty per cent of the amount collected is apportioned to the counties and the oil companies are allowed 2½ per cent of the total for expenses and losses incurred in making collections. There are no exceptions except to the Federal Government. He also stated the bootlegging of gasoline from the United States was one of their greatest sources of trouble.

Solomon Levitan, Wisconsin state treasurer, made a short talk on the benefits of highways and advocated the gasoline tax as the most equitable method to provide funds for their construction and maintenance. He also favored the gasoline tax as against car license tax, stating that in his opinion a one-dollar tax on each car to provide records and tags was sufficient and that the necessary road building funds be obtained by a gasoline tax.

Following Mr. Levitan's talk the meeting was thrown open to a general discussion of questions which had been previously asked by delegates through the medium of a "question box." The greatest discussion was upon the question of Mr. Foster, secretary to the Canadian Minister of Highways, in which he requested information relative to the effect of a 5-cent gasoline tax on tourist travel. Several of the delegates gave their experiences both pro and con. Mr. Foster, in thanking them for their information, stated that he was of the opinion that a 5-cent tax would not greatly influence their tourist travel as Ontario has attractions other than scenic beauty and good roads.

Exemptions and Refunds

Among the subjects considered which are of interest to the oil industry is that of exemptions and refunds pertaining to the gasoline excise tax. The conference, by adopting the report of the Committee on Exemptions and Refunds, went on record as being against any refunds or exemptions of the gasoline tax. However, it was brought out that such a rule would be unconstitutional in some of the states and for that reason a section providing for refunds and exemptions was included in the model gasoline tax law.

The conference also recommended that the proceeds of all gasoline taxes should be used exclusively for the construction, reconstruction, maintenance and repair of roads and highways and the financing of bonds for this purpose. This feature was incorporated in the model law.

The report by the Committee on Inspection, which was adopted by the conference, is of interest to the oil industry and was the subject of considerable discussion by several of the representatives from the various oil companies. In substance the report adopted is as follows:

1. That since the need of inspection now is greater than ever before, each state and province is urged to provide suitable inspection laws for gasoline, kerosene, lubricating oils and furnace oils.

2 (a) That each state and province should provide a suitable set of specifications covering all petroleum products which are subject to inspection and such specifications should conform to those recommended by the United tSates Government Specifications Board and approved by the United States Bureau of Mines, as near as conditions will permit.

(b) That each state and province provide legislation designed to prevent substitution, misbranding and fraud in the sale of lubricating oils.

3. That legislation be passed giving oil inspection departments authority to promulgate safety regulations with reference to the handling of such oils as are subject to inspection and to provide for prosecution and penalties.

4. That oil measuring and dispensing devices be controlled by state oil inspection departments.

5. That no other testing equipment should be used than those approved by the A.S.T.M. or the Bureau of Mines of the United States or Canada.

6. That artificial coloring of any motor fuel should be prohibited except for the purpose of identification of special properties.

Inspection Laws

Representatives of several of the oil companies pointed out that in several states having inspection laws the value received was doubtful and that the ultimate purchaser or consumer had to pay for a needless, if not useless service. They also pointed out that Section 2 (a) regarding specifications might easily retard progress for during the past few years there has been constant improvement in automotive design thus calling for new types of fuel.

In many states specifications created by law could only be changed by an act of the legislature which often meets only once every two years. In regards to lubricating oils it was called to the attention of the conference that the different types of crude petroleum do not yield lubricating oils of the same properties and that it would not be possible to provide a set of specifications that would apply to all lubricating oils from different crudes. However, that portion pertaining to substitution and misbranding would be of value to the consumer.

PETROLEUM ENGINEERS PLAN BIG MEETING IN TULSA, OCTOBER 18-19

Petroleum engineers from different sections of the United States will gather in Tulsa next week for the fall meeting of the Petroleum Division of the American Institute of Mining and Metallurgical Engineers to be held in the Mayo Hotel, October 18 and 19. Holding the meeting on these dates will permit members of the Petroleum Division of the Institute to visit the International Petroleum Exposition which opens in Tulsa, October 20.

A. W. Ambrose

The Tulsa meeting will be devoted largely to subjects pertaining to petroleum engineering, with especial reference to production. The principal papers to be delivered at the meeting include the following:

"Measurement of Original Pressure, Temperature and Gas-Oil Ratio in Oil Sands," by K. C. Sclater, chief production engineer, Marland Oil Co., Ponca City, Okla.

"Capillary Phenomena as Related to Oil Production. A Discussion of Conditions in the Oil Reservoir That Have Relation to Rate of Production and Ultimate Production," by F. G. Tickell, professor of petroleum engineering, Stanford University, California.

"The Oil Recovery Investigations of the United States Bureau of Mines," by R. Van A. Mills, petroleum engineering editor of The Oil and Gas Journal, and Joseph Chalmers, petroleum engineer, United States Bureau of Mines, Bartlesville, Okla.

"Repressuring During the Early Stages of Development," by C. E. Beecher, chief production engineer, Empire Oil & Refining Co., Bartlesville, Okla.

"Deep Well Drilling," by R. S. Cartwright, research engineer, Prunty & Gladieux Drilling Co., Tonkawa, Okla.

"Intermittent Injection of Gas in Gas-Lift Installations," by Morgan Walker, petroleum engineer, Amerada Petroleum Corp., Tulsa.

"Supply and Demand of Petroleum During 1928," by Campbell Osborn, consulting engineer, Tulsa.

"Deep Well Pumping in California," by H. N. Marsh, production engineer, General Petroleum Corp. of California, Los Angeles, Calif.

"Pumping Deep Wells in the Seminole Oil Fields," by M. J. Kirwan, chief engineer, Indian Territory Illuminating Oil Co., Bartlesville, Okla.

The number of papers is purposely restricted in order to allow ample time for discussion. Headquarters will be at Mayo Hotel, and since the meeting immediately precedes the International Petroleum Exposition when the city is crowded, members are urged to make their room reservations well in advance and to have a clear understanding as to when they will give them up. The usual division dinner will be held at the hotel on the evening of October 18.

A. W. Ambrose, of the Empire Companies, Bartlesville, Okla., is chairman of the Petroleum Division of the A.I.M.E.

BUYS LOUISIANA GAS

NEW YORK, Oct. 8.—The Century Carbon Co. has purchased the natural gas holdings of the Consumers Gas Co. of Louisiana which supplies the gas requirements of the carbon company. Wishnick-Tumpeer, Inc., of this city, own the Century Carbon Co. The purchase was made, the company states, to assure it of an adequate supply of natural gas for the production of carbon black.

MEXICO MAY DRILL RESERVES

MEXICO CITY, Mexico, Oct. 5 (By Trens Agency) — Mexico may permit a certain amount of drilling in the National Petroleum Reserves, according to an announcement of the Petroleum Bureau, Department of Industry, Commerce and Labor. A bulletin of the bureau says:

The National Petroleum Reserves take in all the free lands situated in a strip of 50 kilometers in width along the frontier with the United States, from the Pacific Ocean to the Gulf of Mexico; the free lands located in the Central District of the State of Tamaulipas; the National lands in the States of Chihuahua, Coahuila, Nuevo Leon, Tamaulipas, Tabasco and Veracruz; all the islands off the coasts of the country in both oceans and the Federal Zones in all the Republic.

The National Petroleum Reserves were established with the purpose of dedicating to petroleum exploitation the points where the existence of petroleum is proved, in order that, at any given moment, in which the Government may consider its exploitation propitious, it may carry this out, within 10, 15, 25 or 30 years.

American Oil Firms Invited to Develop Soviet Wildcatting

NEW YORK, Oct. 8.—American oil firms will be invited to participate in the development of the Russian oil fields, according to W. Korobovkin, president of Embaneft, one of the three leading producing oil trusts in the Soviet oil industry. M. Korobovkin is now in the United States on a mission to purchase refining equipment and to negotiate with American companies for entering the Russian oil industry in the producing end of the business.

M. Korobovkin, who is making his headquarters here with the Amtorg Trading Corp., American representatives of the Soviet Naphtha Syndicate, said:

"The contract which we expect to conclude will mark the first occasion that a foreign company is being invited to undertake, for exploration purposes only, drilling of a Soviet oil field. The resources of the Ural-Emba oil fields have been comparatively untapped. While the fields extend for hundreds of kilometers, exploitation has been confined to two comparatively small areas—Dossor and Macat. At present we are carrying on prospecting operations in 12 districts and oil has been located at 65 different places. However, the drilling facilities of the trust are insufficient to cope with its increasing operations and we feel that the arrangement by which a specialized American firm, using its own equipment and technical personnel, will assist in the exploring work will solve our problem satisfactorily—especially in view of the notable technical advances that the United States has made in this sphere during the past few years.

"The Ural-Emba Fields, although they at present account for only 2½ per cent of the total production of the U.S.S.R., are of great potential importance. The oil is of excellent quality and well adapted to advanced processes of refining, leaving no residue. In the past our refineries at Nizhi-Novgorod and Yaroslav have been limited mainly to the production of kerosene, lubricating oils, and gas oil. The cracking installations which we intend to purchase in the United States will increase substantially the output of gasoline, which will be extracted from the gas oil."

The Embaneft Trust, according to M. Korobovkin, produced in 1926-27 a total of 253,000 metric tons of crude oil, of which total 208,000 tons went through the refining process. The total amount of drilling during this period totaled 12,725 Nobel Co., a Russian petroleum comdrilling and 4,934 meters for wildcatting. During the current year, the company will expend more than $5,500,000 in capital construction.

E. Mearson, chief engineer of the Dosser Fields, is in this country with M. Korobovkin. Both will remain in the United States for several months, visiting principal producing and refining centers.

Invitation to the American oil industry to participate in the development of Russian oil production has aroused considerable interest in local oil trade circles, particularly so in view of the claims which Standard Oil Co. of New Jersey has pending against the Soviet for the controlling interest which it owned in the Nobel Co., a Russian petroleum company seized and nationalized by the Soviet.

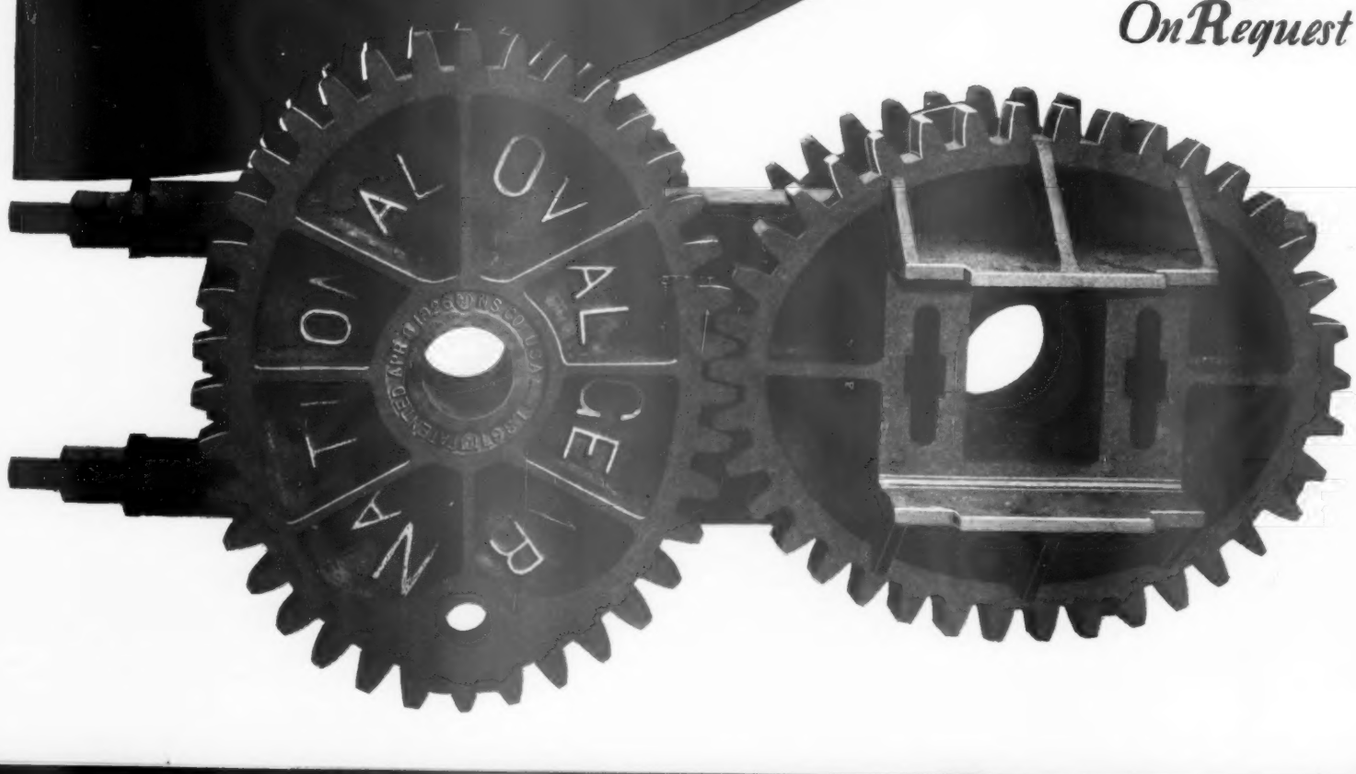
BRITISH BUY MORE CARS

Sir William Letts, managing director of a British automobile company, says the laboring classes in Great Britain are becoming heavier buyers of automobiles in place of motorcycles and sidecars, a condition brought about by lower prices and better cars. As the result of increased use of motor cars, Great Britain is working an arterial road-building program similar to the system in the United States. Wide concrete roads are being built from London to the coast to accommodate the increasing stream of automobile traffic on the week-end holidays.

NATIONAL OVAL GEAR PUMPING ATTACHMENT

THE NATIONAL SUPPLY COMPANIES

Descriptive Bulletin No. 3N.A. On Request



Natural Gas Developments

Cleveland, O., Enjoins East Ohio Gas Co. Against Withdrawal

CLEVELAND, Ohio, Oct. 8.—The East Ohio Gas Co. has been serving the city of Cleveland with natural gas for over 25 years. At different intervals during that time rates have been fixed by city council and accepted by the company. The last contract was entered into on April 18, 1923. One of the provisions of this contract was that on April 30, 1928, all obligations of the company to supply natural gas in Cleveland should cease and terminate, and that the company should discontinue the supplying and distributing of gas in the city.

About six months prior to the termination of this contract negotiations were commenced by the city council and representatives of the gas company for the purpose of making a new contract that would be acceptable to both parties. Engineers were employed by the company and the city and a new contract was prepared containing rates that the company finally accepted. This new ordinance was introduced in council and received its second reading, when it was ascertained that before a franchise of this nature could be finally passed by council a public written report containing recommendations thereon shall have been made to the council by the city manager. In order that further time might be given the city in which to act upon the report of the city manager, two extensions of the existing ordinance were made; the latest extensions expiring September 26, 1928. On September 18 the company and the city, being unable to agree upon the terms of a new contract, the company notified the city in writing that upon the expiration of the existing ordinance, September 26, the company would discontinue serving gas in Cleveland, in accordance with the terms of said ordinance. On September 21 the city and the Public Utilities Commission of Ohio, through the attorney general of the State of Ohio, obtained a preliminary injunction in the common please court of Cuyahoga County on the ground that the company could not withdraw service without first obtaining the permission of the Public Utilities Commission of Ohio. This injunction is now in force and will be heard on its merits at a future date.

COLUMBIAN CARBON CO.

Prospects of Columbian Carbon Co., the Wall Street Journal says, are favorable for improved earnings during 1929. Sales of natural gas are steadily increasing and territory in which gas is sold is being expanded. Deliveries of carbon black are at a high rate. Demand from the tire industry has reduced stocks of carbon black to a point where more favorable prices are likely. Sales of natural gas to Interstate Natural Gas Co. have been running between 25,000,000 and 30,000,000 feet a day and have averaged better than 25,000,000 feet daily to date this year. Interstate company owns the natural gas line which supplies the Baton Rouge refinery of the Standard Oil Co. of Louisiana, subsidiary of the New Jersey company, and certain industries at Destrahan, La. Extension of this gas line to New Orleans should result in increased demand of about 40,000,000 feet daily. Columbian Carbon is expected to supply some of the additional gas required.

A further possible extension of the company's gas business is in connection with a proposed gas line from Lea County, New Mexico, to El Paso, Tex., which would tap holdings of Columbian Carbon, The Texas Corporation, and Amerada corporation in Lea County.

MUSKEGON IS NOT A GAS FIELD WARNING OF STATE GEOLOGIST

By Special Correspondent

MUSKEGON, Mich., Oct. 8.—"Muskegon has an oil field with a large amount of gas and not a gas field as it has been supposed by many people since a number of large gassers have been discovered here," declared R. A. Smith, state geologist, before the Muskegon Chamber of Commerce committee on natural gas and oil development.

There were two other speakers on the program: R. R. Brandenthaler, engineer from the Bartlesville station of the petroleum division of the United States Bureau of Mines, and James Graves, president of the Saginaw Development Co., which drilled the discovery well of the Saginaw Field three years ago last month.

"What you now have found in the Muskegon Township Field, in my opinion, is a new oil producing horizon in the Dundee formation," continued State Geologist Smith. "At present all of the wells drilled have merely opened the high pressure gas area near the top of the dome formation. I believe that additional drilling in every direction out from these large gas wells will result in the discovery of many very profitable oil wells."

Mr. Smith explained that he was basing his statement merely on the evidence which the geological survey at Lansing has at hand. He characterized this evidence as "inconclusive and very meager."

"High gas pressure and the resulting lack of large enough samples of the Dundee rocks in which the gas and oil have been discovered have made it impossible to form any definite conclusions as to the possibilities of this lower sand at Muskegon," he explained.

Must Conserve Supply

"Your field will be a 'flop' if at this stage of the game and without any further evidence of an additional supply of natural gas it is allowed to be piped out of Muskegon," said Mr. Smith. "Anyone who would start piping gas beyond the city of Muskegon based on the present known supply is running away ahead of the game.

"Wait until you know how much gas there is here. Conserve the gas you have by keeping your wells shut in to flow no more than 25 per cent of their total open flow capacity and preferably only 20 per cent. Cut down the wastage of gas from your oil wells to the minimum by known and proven methods. For at the present time there is no more than enough for Muskegon alone," said Mr. Smith.

(Continued on Page 129)

ARKANSAS PIPE LINES PAY $260,000 TAXES

SHREVEPORT, La., Oct. 8.—Oil and gas pipe lines in Arkansas will pay into the state treasury more than $260,000 in taxes on their 1928 assessments, according to estimates taken from the recently published assessment figures on some of the lines, and based on a tax of 28.7 mills, the rate on lines outside of incorporated cities and towns. The assessments published, however, are subject to appeal to and revision by the Arkansas Tax Commission.

Assessments against pipe lines as public utilities announced by the commission so far as contemplated in this estimate are: Standard Pipe Line Co., $4,555,584; Arkansas Natural Gas Corp., $2,365,363; Louisiana-Arkansas Pipe Line Co., $89,346; Frank Reid, Bastrop, $74,430; Southern Pipe Line Co., $79,040; Ouachita Natural Gas Co., $311,790; Arkansas Transit Corp., $60,808; Rex Pipe Line Co., $56,760; Twin City Pipe Line Co., $312,876; Shreveport-El Dorado Pipe Line Co., $336,610; Magnolia Pipe Line Co., $387,488; Texas Pipe Line Co., $407,294. Assessments against these companies total $9,037,389 on which the taxes at the rate stated, figure out $259,373. The total assessment and total tax will amount to considerably more than this as there are a number of lines in the State that do not appear in the above list.

NEW LINE TO CALGARY

The Canadian Western Natural Gas Co. has nearly completed its diamond drill exploration of a large area between Barnwell and Bow Island, on which two drills have been working all summer. The company is progressing favorably with the construction of its new 14-inch pipe line to handle gas production from the Turner Valley Field to Calgary. Practically all the trenching has been completed, and good headway is being made in pipe laying and back filling.

UNION NATURAL GAS CO. NAMES NEW PRESIDENT

CHATHAM, Ontario, Oct. 6.—At a meeting of the directors of the Union Natural Gas Co. of Canada, held recently at Chatham, F. E. Ogden, of Buffalo, N. Y., president of the company since March 1, 1919, tendered his resignation. S. A. Morse of Chatham, Ontario, was elected to succeed Mr. Ogden. Mr. Morse entered the company's service in 1915 and was appointed secretary-treasurer in 1917 and general manager in 1923. He retains the office of general manager and treasurer. Joseph McKee, formerly assistant secretary and assistant treasurer, was elected to succeed Mr. Morse as a secretary, retaining the office of assistant treasurer. The remaining executive officers are E. C. Steele, superintendent of transmission and distribution, and R. L. Bevan, superintendent of production.

BUYS EASTERN GAS LINE

ALBANY, N. Y., Oct. 6.—To enable it to transport additional natural gas from its Allegany County wells and thereby provide better service for consumers in Olean, Portville, Friendship, Angelica, Belmont and adjoining towns, the Producers Gas Co. made application to the Public Service Commission for authority to purchase from the Empire Gas & Fuel Co., Ltd., an 8-inch pipe line, 11 miles long, from a pumping station near Sandford, Allegany County, through Portville to Olean, the price to be paid being $1 a foot.

SASKATCHEWAN GAS TEST

CHATHAM, Ontario, Oct. 6.—In Saskatchewan, the projected test for gas by the Canadian Western Natural Gas Co. on the structure near Hanley, south of Saskatoon, has been held up by pressure of other work. It is now planned to put down a deep test for gas on the Hanley structure early next spring.

MONROE AND RICHLAND LEASES REPORTED SOLD

SHREVEPORT, La., Oct. 8.—Sale of their entire holdings consisting of approximately 26,000 acres of leases in the Monroe and Richland Parish gas fields to the Industrial Gas Co. for $1,100,000 by the Ruston Drilling Co., is reported in local oil and gas circles but is lacking confirmation from the company's headquarters in Ruston, La., where it was advised that negotiations were under way.

Terms of the sale were reported to be $500,000 cash and the remainder to be paid at the rate of 1 cent per 1,000 feet of gas marketed from the properties until the remainder of $600,000 is paid. minimum annual payments to be $250,000.

Ruston Drilling Co. has a total of 18 producing wells with an open flow capacity, according to the September 1 regauge of the Monroe and Richland Fields, of 338,855,000 feet per day of which 68,420,162 feet per day is available under the State Conservation Department's regulations governing the pull on individual gas wells.

Eleven of the wells are in Union Parish and have a total daily open flow of 84,967,000 feet with permissable withdrawal of 17,389,591 feet, and seven are in the Richland Parish Field, having a total open flow capacity of 253,888,000 feet and a permissible withdrawal of 51,030,571 feet.

Industrial Gas Co. is to supply dry gas to the Memphis Natural Gas Co., now engaged in building 212 miles of 18-inch screw, welded and clamped line from Guthrie, Ouachita Parish, to Memphis and intervening communities in Arkansas and Mississippi. It already has a gathering system in the Monroe Field but purchase of the Richland properties entails construction of gathering system and trunk line to Guthrie as the one outlet to the north from the Richland Field is under lease to the Arkansas Natural Gas Corp. It is also possible that the Industrial company may furnish part of the gas to be taken by the Magnolia Gas Co.'s line now under construction from the Webster Parish end of the Beaumont-Latex-Sarepta line at Sarepta to Sterling and Alto in the Monroe and Richland Fields.

Sale of some of the Monroe Field properties of the Louisiana Gas Products Corp. to the United Carbon Co. for $250,000, also is reported from Monroe. The lands, wells and equipment involved are located in Ouachita and Morehouse Parishes and include dwellings, office buildings and equipment, gasoline plant, gas wells, pipe lines, railroad track, siding and tank cars and gas and gasoline contracts.

NEW GAS LINE PROPOSED

It is reported that an 8-inch gas line will be built by Consolidated Utilities Co. from its booster station in Section 5-35-1e, Sumner County, Kansas, to the Deer Creek Field, in Section 14-27-3w, Grant County, Oklahoma. The new line would connect with the company's lateral to Enid, where it ties into the new line from the Texas Panhandle gas fields. Cities of southern Kansas, such as Winfield, would then have a direct connection with the natural gas pools of the Texas Panhandle.

GAS LINE FOR SAN FRANCISCO

Final contracts looking to natural gas pipe line for San Francisco are expected to be signed shortly between Pacific Gas & Electric Co., Southern California Gas Co., Pacific Lighting Co. and others.

OCS

STEEL RIG FRONTS

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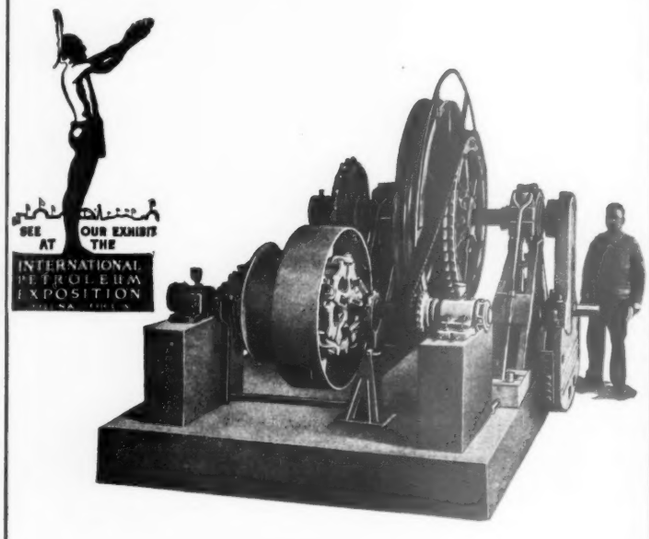
DEEPEST WELLS



CHOICE OF SPEED

CHOICE OF ENGINES

CHOICE OF MOTORS

CHOICE OF STROKE

ROLLER CHAIN and

ROLLER BEARINGS

and

INVESTMENT NOT INCREASED

Ask for Bulletin 85-C

Manufactured by

THE OIL COUNTRY SPECIALTIES MFG. CO.

COFFEYVILLE, KANSAS

WILDCAT OPERATIONS IN OKLAHOMA

(Continued from Page 50)

MUSKOGEE COUNTY

Elk Drilling Co.'s No. 1 Jones, SW cor. SW Sec. 34-13-17 ..... Shut down 400 ft.
L. T. Haney's No. 1 Mitchell, SE cor. NW SE Sec. 33-13-18 ..... Drlg. 2,140 ft.
C. D. Bradley's No. 1 Unallotted, NE cor. SW Sec. 21-15-19 ..... Dry and abandoned 1,108 ft.
J. L. Slusher's No. 1 Nave, NE cor. SW NW Sec. 20-15-20 ..... Drlg. 450 ft.

HUGHES COUNTY

Galt-Brown Oil Co.'s No. 1 Burrey, C NW NE Sec. 14-4-9. Dry and abandoned 4,101 ft.
Bauer and others' No. 1 Penn, NW cor. SW NE Sec. 1-8-10 ..... Drlg. 2,520 ft.
Fuhrman Petroleum Co.'s No. 1 Turner, NE cor. NW SE Sec. 26-9-10 ..... Dry and abandoned 3,180 ft.
W. J. Monahaim's No. 1 Pusby, C NW NE Sec. 14-4-9.... Location abandoned.
Noble Oil & Gas Co.'s No. 1 Wickett, SE cor. SE Sec. 20-5-9 ..... Dry and abandoned 3,015 ft.
E. W. Whitney and others' No. 1 Moore, SE cor. SW Sec. 17-5-9 ..... Drlg. 1,800 ft.
Pure Oil Co.'s No. 1 Fixico, NE cor. SW Sec. 18-8-9..... Drlg. 3,514 ft.
Howard Petroleum Co.'s No. 1 Gilbert, NW cor. SE Sec. 25-8-10 ..... Drlg. 3,120 ft.
Gypsy Oil Co.'s No. 1 McGirt, NE cor. NW SW Sec. 21-6-8 ..... Drlg. 3,340 ft.
T. B. Slick, Inc.'s No. 1 Epperly, NW cor. NE NW Sec. 32-6-8 ..... Drlg. 4,555 ft.

OKLAHOMA COUNTY

Slick & Bailey's No. 1 Koester, C SE NE Sec. 18-13-3w.. Shut down 4,510 ft.
Cromwell & Franklin's No. 1 Thompson, SW cor. NE NE Sec. 15-12-3w ..... Drlg. 6,966 ft., show oil, pulling liner to shut off water.
Cromwell & Franklin's No. 1 Gross, SW cor. NE SW Sec. 22-10-2w ..... Shut down 4,702 ft.
Indian Terr. Ill. Oil Co.'s No. 1 fee, C SE SE Sec. 24-11-3w ..... 50,000,000 ft. gas 4,863-4,865 ft.; drilling ahead.

LINCOLN COUNTY

Bu-Vi-Bar Petroleum Co.'s No. 1 School Land, C NE SE Sec. 16-13-4 ..... Wilcox 5,310-5,330; hole full of water; dry and abandoned.

OKFUSKEE COUNTY

Moose & Daniels' No. 1 Stidham, SW cor. NW Sec. 4-11-10 ..... Shut down 622 ft.
Dixie Oil Co.'s No. 1 Drew, NE cor. SW Sec. 8-13-10.... Rig.

SEQUOYAH COUNTY

Cooper & Badger's No. 1 Young NW cor. NE NE Sec. 7-12-20 ..... Drlg. 450 ft.
Hunt and others' No. 1 Unknown, SE cor. NW SW Sec. 12-12-23 ..... Drlg. 600 ft.

PAWNEE COUNTY

Washoma Oil Co. and others' No. 1 Buffalo, SE cor. NE Sec. 33-22-5 ..... Shut down 2,360 ft.

POTTAWATOMIE COUNTY

Barnsdall Oil Co.'s No. 1 Guinn, SW cor. SW Sec. 16-7-5.. Dry and abandoned 4,417 ft.
Shaffer-Kilgore-Sykes' No. 1 Ives, C SE SE Sec. 12-10-3 ..... Wilcox 5,615-17; hole full water, dry and abandoned.
Superior Oil Co.'s No. 1 Herminghausen, SW cor. NW NE Sec. 24-8-2 ..... Fishing 4,668 ft.
Davy & Detrick's No. 1 McGehee, SW SE NW Sec. 10-6-2 ..... Abandoned 4,988 ft.
Indian Terr. Ill. Oil Co.'s No. 1 White, NE cor. NE SW Sec. 21-7-5 ..... Dry and abandoned 4,287 ft.
Pure Oil Co.'s No. 1 Lindley, SE cor. SW SE Sec. 18-8-5.. Simpson sand 4,098-4,115 ft.; completed, pinched in.
Roxana Pet. Corp.'s No. 1 Deister, NW cor. SE NE Sec. 20-6-5 ..... Dry and abandoned 4,271 ft.
T. B. Slick and Roxana Pet. Corp.'s No. 1 Hurst, SE cor. NW NW Sec. 17-7-2 ..... Waiting on cement to set 5,041 ft.
J. B. Slick's No. 1 School Land, SE cor. SE Sec. 16-6-5.. Dry and abandoned 4,745 ft.
Tomlinson et al's No. 1 Whisenhurst, NW cor. NE SE Sec. 35-7-5 ..... Drlg. 1,975 ft.
Phillips Petroleum Co.'s No. 1 Parman, SE cor. SW Sec. 15-8-4 ..... Shut down 3,950 ft.
Champlin Refining Co.'s No. 1 Foster, SW cor. NE SW Sec. 14-7-5 ..... Drlg. 2,167 ft.

CADDO COUNTY

Magnolia Petroleum Co.'s No. 1 Shelby, SW cor. SW Sec. 28-10-12w ..... Drlg. 4,210 ft.
J. V. Bailey's No. 1 Hubbard, C NE NW Sec. 1-10-6w.. Shut down 150 ft.
W. J. Hartley's No. 1 Galbreath, SE cor. NW SE Sec. 29-5-12w ..... Shut down 3,394 ft.
English Drilling Co.'s No. 2 Pruitt, CNL NW SE Sec. 22-6-10w ..... Rigged up and shut down.
Red Bank Oil Co.'s No. 1 Shanklin, C NW Sec. 15-12-11w. Drlg. 4,334 ft.

OSAGE COUNTY

Amerada Pet. Co.'s No. 1, NE cor. SW, Sec. 25-25-6 ..... Drlg. 1,620 ft.
A. D. Morton's No. 1, NE cor. SE Sec. 1-26-6..... Rig.

STEPHENS COUNTY

Wade-Martin & Smythe's No. 1 Vestal, NE cor. SE Sec. 20-2-5w ..... Drlg. 2,116 ft.
Stahl & Burris' No. 1 Jefferson, SE cor. NE NW Sec. 2-1-7w ..... Rigging up rotary.

SEMINOLE COUNTY

Prairie Oil & Gas Co.'s No. 1 Davis, NE SE Sec. 21-10-7.. Drlg. 3,375 ft.
Fuhrman Petroleum Co. and Superior Oil Co.'s No. 1 Davis, SW SW SE Sec. 3-10-6 ..... Dry and abandoned 4,593 ft.
Superior & Fuhrman's No. 1 Fay, NW cor. SE SW Sec. 27-11-6 ..... Drlg. ahead 4,065 ft.
Magnolia Pet. Co.'s No. 1 Germany, SE cor. NW Sec. 30-9-5 ..... Drlg. 3,710 ft.
Burke-Greis Oil Co.'s No. 1 Cyrus, SE cor. NE NW Sec. 13-9-7 ..... Drlg. 2,075 ft.
Harris et al's No. 1 Stidham, SE cor. NW Sec. 36-9-8.... Drlg. 2,650 ft.
T. B. Slick's No. 1 Wood, NE cor. NE SW Sec. 26-7-6.... Wilcox 4,650-65 ft.; water.
C. B. Shaffer's No. 1 Carolina, SE cor. SW NE Sec. 4-6-7.. Casing 4,412 ft.
E. W. Whitney's No. 1 Harjo, NE cor. NW NE Sec. 25-7-6 ..... Plugged back 4,325 ft. and shut down.
Shaffer Oil & Ref. Co.'s No. 1 Catchochee, SW cor. SW NE Sec. 18-10-7 ..... Wilcox 4,705-10 ft. hole; hole full water; plugging back to Cromwell sand, and set 5-inch casing 3,730 ft.
Prairie Oil & Gas Co.'s No. 1 Rogers, SE cor. NE SE Sec. 14-10-6 ..... Drlg. 4,547 ft.
Prairie Oil & Gas Co.'s No. 1 Foster, NW cor. NE NW Sec. 12-8-5 ..... Drlg. 4,215 ft.
T. B. Slick, Inc.'s No. 1 Tiger, NW cor. SW SE Sec. 13-8-5 ..... Drlg. 700 ft.
Magnolia Petroleum Co.'s No. 1 Sissy, SW cor. NE Sec. 33-8-7 ..... Rigging standard tools 3,722 ft.
McCulloch Oil Co.'s No. 1 McGilbray, SW cor. SW NE Sec. 4-8-8 ..... Rig.
Empire Gas & Fuel Co.'s No. 1 Harjo, SW cor. NW SE Sec. 17-7-6 ..... Drlg. 2,060 ft.
Wigton & Long's No. 1 Jefferson, NW cor. NE Sec. 31-7-6 ..... Sand 1,152-1,190 ft.; pumping 36 bbls.

MAJOR COUNTY

Smith and others' No. 1 Baker, NE cor. NW Sec. 35-22-11w ..... Abandoned 1,046 ft.
Randau & Mooney's No. 1 Parker, SE cor. NE NW Sec. 4-23-16w ..... Show of oil 1,235 ft.; shut down

WOODS COUNTY

E. K. Miller's No. 1 Copenhavers, NW cor. NW Sec. 18-24-13w ..... Rig.

MURRAY COUNTY

Revels & Magee's No. 1 Labor, NW cor. NW Sec. 17-1-2.. Drlg. 1,370 ft.
Gilcrease Oil Co.'s No. 1 Wolfe, SW cor. NW Sec. 21-1-2.. Drlg. 2,860 ft.

DEWEY COUNTY

Huckaby & McCoy's No. 1 Perfect, NE cor. NE Sec. 9-18-15w ..... Fishing 4,345 ft.
Don Sifers' No. 1 Jordan, SW cor. NW Sec. 16-16-17w.... Spudded and shut down.

(Continued on Next Page)

BECKHAM COUNTY

T. & H. Petroleum Co.'s No. 1 Barnes, SW cor. NW NE Sec. 32-9-22w ..... Shut down 3,460 ft.
Martin et al's No. 1 Cluck, NW cor. SE, Sec. 1-8-25w .... Location.
L. C. Hivicks' No. 1 Davis, C NW NE Sec. 4-11-26w ..... Shut down 250 ft.
Producers Exploration Co.'s No. 1 Seidell, SE cor. SW SW Sec. 17-9-22w ..... Drlg. 2,315 ft.
Pferffel and others' No. 1-A Carter, NE cor. NE Sec. 35-9-22w ..... Shut down 1,500 ft.
Day Oil Co.'s No. 1 Ault, NW cor. NW Sec. 33-8-21w .... Spudded.

GRADY COUNTY

Remington and others' No. 1 Fryrear, SW SW NE Sec. 13-9-5w ..... Shut down 720 ft.
Dave Malernee's No. 1 Hall, SE cor. NW SW Sec. 8-3-7w. Dry and abandoned 3,502 ft.
Commercial Development Co.'s No. 1 Chrisman, C NE NE Sec. 21-4-7w ..... Dry and abandoned 3,360 ft.
J. V. Bailey's No. 1 Hubbard, C NE NW Sec. 1-10-6w .... Spudded and shut down.
J. M. Henry and others' No. 1 Abraham, SE cor. NW Sec. 4-5-8w ..... Rig.
Commerce Development Co.'s No. 1 Taylor, C NE NW Sec. 4-3-7w ..... Drlg. 1,920 ft.
J. B. Nichols' No. 1 Brake, SE cor. NE SE Sec. 7-5-7w. Shut down 2,307 ft.

M'INTOSH COUNTY

Marione Oil Co.'s No. 1 Sanders, NW cor. NE SW Sec. 10-9-18 ..... Drlg. 2,415 ft.
Wolfe et al's No. 1 Unknown, NW cor. SE Sec. 15-12-18. Rig on ground.

CLEVELAND COUNTY

Daniels & LeWright's No. 1 Vandever, C SW Sec. 15-7-1w ..... Shut down 3,130 ft.

KIOWA COUNTY

Blue Mountain Oil Co.'s No. 1 Jones, SE cor. NW NW Sec. 17-5-14w ..... Shut down 530 ft.
Johnson & McDowell's No. 1 Thompson, SW cor. NE Sec. 6-6-15w ..... Shut down 1,725 ft.
Dave Malernee's No. 1 Van Kirk, NW cor. NW Sec. 35-7-15w ..... Shut down 858 ft. in granite.
A. C. Varner and others' No. 1 Bonham, CSL NW NW Sec. 5-6-18w ..... Shut down 1,127 ft.

CUSTER COUNTY

W. E. Witts' No. 1 Wellman, C SE Sec. 1-14-14w ..... Rig and tools.

PONTOTOC COUNTY

Moore & Curran's No. 1 Allen, SE cor. SW SW Sec. 23-5-5 ..... Drlg. 1,460 ft.
T. J. Shervin and others' No. 1 Wright, NW NE NE Sec. 13-4-6 ..... Wilcox corrected 3,565-70 ft.; dry and abandoned.
Roxana Pet. Corp.'s No. 1 Folsom, NW cor. SW Sec. 20-4-4 ..... Rig.
Boles and others' No. 1 Rayburn, SW SE Sec. 35-4-6 ..... Lost underreamer; abandoned at 1,340 ft.
Texas Pacific Coal & Oil Co.'s No. 1 Stewart, C SW NE Sec. 11-5-8 ..... C.O. 3,435 ft.
American Oil Refining Co.'s No. 1 Jones, NE cor. NE Sec. 18-5-5 ..... Drlg. 1,510 ft.
Douglas Oil Co.'s No. 1 Sutton, C NW NW Sec. 10-3-8 ... Shut down 3,135 ft.

GARVIN COUNTY

R. F. Garland's No. 1 Stricklapd, SW NW SW Sec. 10-4-3 ..... Drlg. 2,936 ft.
Dixie Oil Co.'s No. 1 Perkins, SE NW Sec. 15-4-1 ..... Dry and abandoned 5,455 ft.

COMANCHE COUNTY

Jolly-Ogg Oil Co.'s No. 1 Neeley, SE NE Sec. 24-3-10w.. Dry and abandoned 3,014 ft.
Green and others' No. 1 Wilson, C NE SW Sec. 14-1-12w.. Drlg. 3,792 ft.

COAL COUNTY

McGraw and others' No. 1 Patton, SW SE NE Sec. 35-1-8 ..... Drlg. 4,446 ft.
Indian Territory Illuminating Oil Co.'s No. 1 Harris, SW cor. NW Sec. 10-1-11 ..... Drlg. 3,015 ft.
Robert Galbreath and others' No. 1 Jones, SW cor. SE Sec. 24-1-9 ..... Spudded and shut down.

JACKSON COUNTY

Altus Oil Co.'s No. 1 Northington, NE cor. NE Sec. 4-1-20w ..... Shut down 735 ft.

SOUTHERN OKLAHOMA
BRYAN COUNTY

Green Oil & Ref. Co.'s No. 1 Kemp, SE cor. NW NW Sec. 25-8s-9 ..... Abandoned 600 ft.
Alexander & Oppenheimer's No. 1 Hampton, SE cor. NE Sec. 26-7s-11 ..... Shut down 1,425 ft.

MURRAY COUNTY

Gilcrease Oil Co. and Mohawk Drilling Co.'s No. 1 Wolfe, SE cor. NE Sec. 20-1-2 ..... Dry and abandoned 1,984 ft.
Alter and others' No. 1 Johnson, SW cor. NW Sec. 14-4-7. Spudded and shut down.

COTTON COUNTY

Cuyler & Pyson's No. 1 Thomas, SE cor. SE SW, Sec. 16-4-12w ..... Spudded and shut down.

JEFFERSON COUNTY

M. Mitchim's No. 1 Newcomb, SW cor. SE SE, Sec. 8-5-4w ..... Dry and abandoned 2,534 ft.
Amerada Petroleum Co.'s No. 1 Emerson, NW cor. SE SW Sec. 28-5s-8w ..... Drlg. 3,810 ft.

CHOCTAW COUNTY

Hugo Gray's No. 1 Smith, SE cor. SW NW Sec. 27-6s-16.. Dry and abandoned 1,540 ft.
Choctaw Petroleum Co.'s No. 1 Wilson, SW cor. SW Sec. 15-6-19 ..... Shut down 1,346 ft.

TILLMAN COUNTY

Bray and others' No. 1 Barker, NE cor. SW NW Sec. 9-1-15w ..... Shut down 805 ft.
A. J. Bundy's No. 1 Hayster, NE cor. SW SE Sec. 23-2-17w ..... Dry and abandoned 630 ft.
A. N. Pearson's No. 1 Mounts, SW cor. SW Sec. 3-5s-15w. Dry and abandoned 2,015 ft.
Landfair and others' No. 1 Smith, SE SW SE Sec. 6-2s-16w ..... Shut down 2,485 ft.

STEPHENS COUNTY

Clark & Cowden's No. 1 Watkins, SE cor. NE SW Sec. 22-2-7w ..... Dry and abandoned 2,500 ft.

JOHNSTON COUNTY

Wapanucka Oil Co.'s No. 1 Banks, Sec. 28-2s-9 ..... Shut down 1,530 ft.
Bush Creek Oil Co.'s No. 1 Kirby, SE cor. SE NW Sec. 9-4-7 ..... Shut down for casing 405 ft.
Smith & Kinsley's No. 1 Lane, SE cor. NW Sec. 29-1-7... Drlg. 815 ft.
Wirt Franklin Pet. Co.'s No. 1 Wilkes, SW cor. SE Sec. 18-4-4 ..... Dry and abandoned 4,505 ft.
Wirt Franklin Pet. Co.'s No. 1 Foster, CNL NW SW Sec. 35-4-4 ..... Dry and abandoned 1,375 ft.

KANSAS WILDCATS

(Continued from Page 52)

Ward McGinnis' No. 1 Finch, NE cor. SW Sec. 11-26-12.. Dry and abandoned 1,720 ft.
Ward McGinnis' No. 1 Robbins, NE cor. NW Sec. 16-24-9.. Spudded.
Hanley et al's No. 1 Peterson, NW cor. NE SE Sec. 4-26-13 ..... 1,000,000 ft. gas, 1,528-31 ft.; completed.
W. H. Swartz' No. 1 Thomas, SW cor. NW Sec. 17-22-13.. Dry and abandoned 1,850 ft.
O. W. Culy et al's No. 1 Hoover, NE cor. SE Sec. 15-27-13 ..... Dry and abandoned 1,483 ft.
Sharpless et al's No. 1 Corper, SW cor. SE SE Sec. 22-23-12 ..... Dry and abandoned 1,310 ft.

HARPER COUNTY

Amerada Pet. Corp.'s No. 1 Mendiville, C SE SE Sec. 23-34-6w ..... Drlg. 5,360 ft.
Sam Jarvis' No. 1 Wyckoff, SW cor. NW Sec. 11-34-4w... Wilcox 4,755-78 ft.; hole full of water; dry and abd. 4,802 ft.
Sam Jarvis' No. 1 Warneke, SE cor. SW Sec. 4-34-3w... Drlg. 4,572 ft.

HARVEY COUNTY

Roxana Pet. Corp.'s No. 1 Haury, NE cor. SW SE Sec. 11-23-2w ..... 4,000,000 gas 2,961-90 ft.; shut in as gas well.
R. S. Austin's No. 1 Nieman, SW cor. SW Sec. 21-24-2.... Drlg. 1,245 ft.

JEFFERSON COUNTY

Wichita Oil Co.'s No. 1 Simpson, NW cor. SW SW Sec. 19-10-17 ..... Rigged up and shut down.

JACKSON COUNTY

Shervin & Morton's No. 1 Lutes, SW cor. NW NW, Sec. 27-7-15 ..... Drlg. 850 ft.

(Continued on Next Page)

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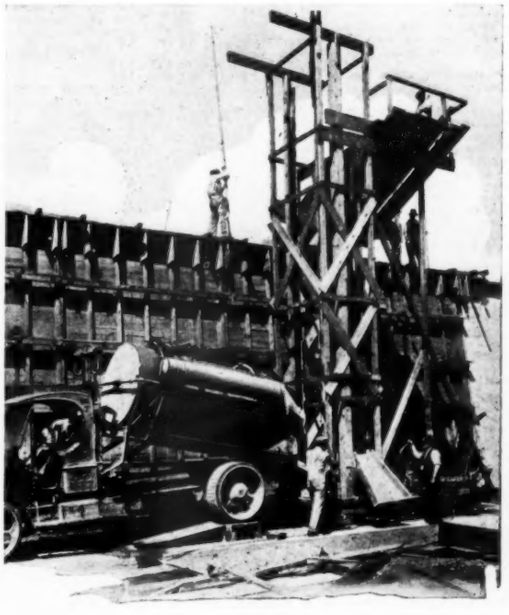

The concrete fire wall shown under construction above and at the right, in the Richfield Oil Company's yards in Seattle, was built of 1:2:4 concrete containing 16 lbs. of Celite per yard to insure uniformity and impermeability. J. W. Feak Company, Contractors.

LANE COUNTY

Robinson et al's No. 1 Dickerson, SW cor. NW SE Sec. 11-18-27w ..... Casing 2,625 ft.

MARION COUNTY

Youker et al's No. 1 Fronta, SW cor. NW NE Sec 21-18-4 ..... Shut down 2,427 ft.; hole full of water.

Prairie O. & G. Co.'s No. 1 Theis, NW cor. NW Sec. 151-9-4 ..... Dry and abandoned 2,715 ft.

Graham Bros.' No. 1 Nelson, NE cor. SE Sec. 30-17-5 ..... Sand 2,295-2,380 ft.; pumping 20 bbls.; completed.

R. L. Bobst's No. 1 Schwab, SW cor. NE Sec. 31-16-5 ..... Dry and abandoned 2,345 ft.

Courtney B. Davis' No. 1 Rampel, SE cor. NE SE Sec. 7-19-3 ..... Casing 2,290 ft.

Raymond Gear's No. 1 Larson, NW cor. SW NW Sec. 18-21-4 ..... Drlg. 1,000 ft.

Empire Oil & Ref. Co.'s No. 1 Siebert, SW cor. SE Sec. 28-20-2 ..... Sand 2,425-2,427 ft. 1,500,000 ft. gas, shut in.

J. E. Hanna's No. 1 Pankratz, NE cor. NE SW Sec. 13-20-3 ..... Rig.

MEADE COUNTY

Blackwell O. & G. Co.'s No. 1 Beyer, SE cor. NW SE Sec. 9-33-28w ..... 500,000 ft. gas and 2 bailers water total depth 4,356 ft.

MITCHELL COUNTY

Ben Gurley et al's No. 1 Crombll, C NE NE Sec. 32-9-7w ..... Drlg. 3,415 ft.

MORRIS COUNTY

Cress & Hawley's No. 1 Grendler, NW cor. SE Sec. 16-15-5 ..... Dry and abandoned 2,210 ft.

Hugh Faulder's No. 1 Wendt, SW cor. SE SE. Sec. 18 16-5 ..... Rigging up.

Matthews et al's No. 1 Walters, SW cor. NE Sec. 14-15-5. Dry and abandoned 2,405 ft., corrected depth.

Skelton et al's No. 1 Iles, NW cor. NW Sec. 25-16-5 ..... Rig.

O'Day et al's No. 1 Scott, NE cor. SW Sec. 6-16-6 ..... Rig.

McPHERSON COUNTY

Phillips Pet. Co.'s No. 1 Wright, SW cor. NW NW Sec. 9-19-4 ..... Dry and abandoned 2,420 ft.

Derby Oil Co.'s No. 1 Bughman, C SW SW Sec. 21-18-2w. Dry and abandoned 3,502 ft.

Davis & Hazlett's No. 1 Gray, NW cor. SE NW Sec. 20-20-3w ..... Dry and abandoned 3,830 ft.

Galt-Brown's No. 1 Blaine, C NE Sec. 18-17-1w ..... Drlg. 3,285 ft.

John Heron's No. 1 Vosshell, NE cor. NE Sec. 9-21-3w... Shut down 500 ft.

Larlaux et al's No. 1 Martinson, NE cor. SE Sec. 9-19-3w. Rig.

McPherson Gas Co.'s No. 1 Stein, SW cor. NE SW Sec. 17-18-1w ..... Drlg. 1,310 ft.

A. E. Meyers, No. 1 Papp, SW cor. SW NE Sec. 10-18-2.. Rig.

McPherson Gas Co.'s No. 1 Gustafson, C NE Sec. 9-17-2w ..... Drlg. 905 ft.

W. C. Newman's No. 1 Diepenbrock, NW cor. NE Sec. 2-17-1w ..... Drlg. 2,115 ft.

OTTAWA COUNTY

Anderson et al's No. 1 Bank, NE cor. NW Sec. 28-10-2w.. Shut down 2,380 ft.

PAWNEE COUNTY

F. C. Troupe's No. 1 Lovett, CEL NE NE Sec. 31-21-16w. Shut down 1,560 ft.

OSBORNE COUNTY

T. C. Johnston's No. 1 Cooley, C NW NE Sec. 15-8-15w... Drlg. 2,725 ft.

L. D. Jarvis No. 1 Jellison SE cor. SE Sec. 13-10-15w.... Spudded and shut down.

POTTAWATOMIE COUNTY

J. J. Crawford's No. 1 College, CWL SW NE Sec. 11-10-12 ..... Dry and abandoned 2,250 ft.

PHILLIPS COUNTY

Watsonian Oil Co.'s No. 1 Marklein, NE cor. SW Sec. 21-3-19w ..... Drlg. 1,275 ft.

RENO COUNTY

Empire and Marland's No. 1 Williams, SE cor. NE Sec. 5-26-4w ..... Dry and abandoned 4,144 ft.

RICE COUNTY

Allison & Fitzwilliams' No. 1 Poland, NE cor. SW NE Sec. 36-19-8w ..... Cellar.

ROOKS COUNTY

J. C. Findeiss' No. 1 Overholtzer, C SE Sec. 30-9-16w... Dry and abandoned 3,593 ft.

Phillips Pet. Co.'s No. 1 Overholtzer, C SE Sec. 30-9-19w.. Corrected shut down 2,750 ft.

Empire G. & F. Co.'s No. 1 Woodrill, NE cor. SE NW Sec. 15-8-18w ..... Drlg. 2,520 ft.

Krueger et al's No. 1 Poore, NE cor. NE Sec. 14-8-16w... Drlg. 2,620 ft.

Burford & Brimm's No. 1 Toxa, NE cor. SW SE Sec. 22-19-17w ..... Spudded and shut down.

Krueger et al's No. 1 Poore, NE cor. NE Sec. 14-8-16w.. Drlg. 2,560 ft.

Skelly & Mid-West's No. 1 Jones SW cor. NE NW Sec. 28-7-16w ..... Drlg. 3,410 ft.

RUSH COUNTY

Danciger Valerius & Chenney's No. 1 Schuerman, NW cor. SE NW Sec. 27-17-17w ..... Fishing 3,250 ft.

Sinclair Oil & Gas Co.'s No. 1 Berching, NW cor. NE NW Sec. 9-16-16w ..... Drlg. 550 ft.

RUSSELL COUNTY

Douglas Oil Co.'s No. 1 Stoppel, SE cor. SW NE Sec. 25-14-11w ..... Dry and abandoned 3,505 ft.

Hartman & Skeer's No. 1 Taylor, C SW Sec. 25-13-12w.. Dry and abandoned 3,357 ft.

Midwest Exploration Co.'s No. 1 Austin, NE cor. NE Sec. 36-12-16w ..... Fishing 3,045 ft.

Gypsy Oil Co.'s No. 1 Cook, C NE SE Sec. 10-13-15w..... Underreaming 3,095 ft.

Stearns & Streeter's No. 1 Haise, NE cor. SE SE Sec. 36-12-15w ..... Shut down top Oswalt lime 2,974 ft.

Joe Liggett's No. 1 Maier, SE cor. NE SE Sec. 8-11-15w.. Drlg. 2,580 ft.

SALINE COUNTY

M. Esty et al's No. 1 Peterson, C NE Sec. 6-16-5w..... Spudded and shut down.

Boyle et al's No. 1 Miller, SW cor. SE Sec. 21-16-1w... Rig.

Skelton et al's No. 1 Iles, NW cor. NW Sec. 25-16-5 ..... Rig.

Nathan Jones et al's No. 1 Robertson, NW cor. SW Sec. 27-14-2w ..... Drlg. 1,500 ft.

SEDGWICK COUNTY

Bu-Vi-Bar Pet. Co.'s No. 1 Wright, SE NE SE Sec. 12-26-1w ..... Sand 3,367-68 ft., flowing 1,700 bbls. daily.

J. H. Tatlock et al's No. 1, Goeldnea NW cor. NE Sec. 6-29-2 ..... Spudded.

La Robb Oil Co's. No. 1 Davis SE cor. SE Sec. 36-25-1w.. Drlg.

Magiason et al's No. 1 Buckles, NW cor. SE Sec. 3-28-1w. Shut down 250 ft.

Barnsdall Oil Co.'s No. 1 Faber, SW cor. NW Sec. 6-27-1w ..... Spudded.

Allison & Fitzwilliams' No. 1 Doane, NE cor. NW NE Sec. 24-26-1w ..... Drlg. 1,727 ft.

Barnsdall Oil Co.'s No. 1 Gilroy, NW cor. SW SW Sec. 8-25-13 ..... Drlg. 700 ft.

SEWARD COUNTY

T. B. Slick's No. 1 Pyle, NE cor. NE Sec. 14-33-33w..... Drlg. 4,915 ft.

SHERMAN COUNTY

A. L. Henson et al's No. 1 Murry, NE cor. SE NW Sec. 22-7-40w ..... Shut down 3,035 ft.

STEVENS COUNTY

W. Sidwell et al's No. 1 Kelly, SW cor. NE Sec. 16-34-38w ..... Drlg. 1,000 ft.

Trees Oil Co.'s No. 1 Thompson C NE SW Sec. 3-35-38w.. Casing trouble 600 ft.

SUMNER COUNTY

Helmerich & Payne's No. 1 Broadhurst, SE cor. NE NE Sec. 15-33-2e ..... Dry and abandoned 3,627 ft.

McCulloch Oil Co.'s No. 1 Teetzle, SW cor. NE Sec. 29-34-1w ..... Spudded.

Gypsy Oil Co.'s No. 1 Williams, NW SE SW Sec. 16-35-3w ..... Cementing cave 2,890 ft.

Helmerich & Paynes' No. 1 Warlick, SE cor. NE Sec. 8-34-2 ..... Drlg. 840 ft.

Otstot et al's No. 1 Barlow, SE cor. SE Sec. 22-33-3w.... Wilcox 4,479-4,482 ft. show oil and gas.

George Dickey's No. 1 Knox, SW cor. NE Sec. 3-35-1w... Shut down for water 2,836 ft.

Otstot et al's No. 1 Volker, NW cor. NE Sec. 9-35-1..... Rig.

Davidson and others' No. 1 Strickland, SW cor. SE Sec. 12-35-1w ..... Rig.

Rolland et al's No. 1 Pickens, NE cor. NW NE Sec. 27-30-14w ..... Drlg. 3,912 ft.

TREGO COUNTY

Central Commercial Oil Co.'s No. 1 Ellis, NE cor. SW NE Sec. 20-13-21w ..... Drlg. 1,710 ft.

WASHINGTON COUNTY

McCool & Vincent's No. 1 Linn, NW cor. NE Sec. 27-4-3.. Rig.

KENTUCKY-TENNESSEE

(Continued from Page 68)

the gauge, and as a result the amount handled in the tankers had to be cut about 20 per cent. Three tankers were loaded by the Illinois Pipe Line Co., Thursday, but instead of shipping 5,000 bbls. to the tank, but 4,000 bbls. were loaded in each tanker. Three more tankers were shipped by the same company with 4,500 bbls. each.

Dry weather is hampering the operations in the oil field as well as the barging of the crude. Quite a few of the operators are hauling water to keep the boilers going.

Week's Work

A summary of the week's work in the Kentucky fields shows 45 completions, 32 producers with an initial production of 1,235 bbls., 11 dry holes and 2 gas wells.

County—	Oil wells Comp.	Prod.	Dry	Gas
Daviess	21 16	525	5	0
Ohio	20 14	655	5	1
Barren	1 1	30	0	0
Allen	1 1	25	0	0
Metcalf	1 0	0	0	1
McLean	1 0	0	1	0
Total	45 32	1,235	11	2

Daviess County Wells

The Trodgen lease in the Hayden Pool, of Daviess County, an offset to the M. W. S. Syndicate's C. M. Field lease, released by the Atlantic Oil Producing Co. after two wells had been drilled on it, one of them dry and the other a small gas well, brought a nice well for Evans and Garrison, good for 75 bbls. initially.

Louis H. Robbins and others' No. 1 on the Doctor Fireline farm, in the Jones Pool, west of Whitesville, came with quite a surprise. While estimated at 100 bbls. its actual production is nearer 60 bbls., and is among the best wells yet found in that new pool. In the same pool, M. B. French and others have a fine looking lease in the L. R. Howard farm, as No. 1 produced 15 bbls. and No. 2. just in, is good for 75 bbls. initially. No. 3 is drilling.

The Ohio Oil Co.'s No. 9 well, 600 feet from the north line and 200 feet from the east line of the Lawrence Roby 87 acres, in the Roby Pool, is good for 20 bbls. Same company's No. 1 on the M. E. Cravens farm, near the Calhoun Road, about 10 miles southwest of Owensboro, drilled in a duster. Same company is drilling a second test in the Roby Pool, on the E. F. Lebold farm.

M. B. French and others' No. 2 on the Walter Hinton farm, in the Jones Pool, is a 10-bbl. pumper. No. 1 on this lease was a gas well.

L. C. Young's No. 4, on the Robert L. Sands farm, in the Red Hill Pool, is good for 35 bbls. initially. Mr. Young is drilling No. 4 J. L. Park farm, in the same pool, as well as No. 3 on the K. N. Yeiser farm, west of the Hayden Pool.

Bell and others' No. 1, on the Ivan Leet farm, 2,000 feet southwest of the Tompkins farm, is credited with 15 bbls. initially at 1,370 feet.

D. C. Stinson and others' No. 4, on the Irwin & Slagle 47 acres, in the Red Hill Pool, produced an initial of 40 bbls.

Swarthout and Rhodes' No. 1 on the Rhodes heirs' farm, is reported good for about 25 bbls.

The Three Sands Oil Co.'s No. 5, on the Alvey Tyler farm, in the Hayden Pool, produced 70 bbls. initially. This was formerly known as the property of Miller and Damron, of the Creek Drilling Co., and has proven a very productive lease.

L. S. Clough and others' No. 4, on the C. M. Jones farm, in the Jones Pool, produced an initial of 5 bbls. This pool is about 3 miles or so west of Whitesville, and it was on this farm that the discovery well of the pool was found.

Pratt Brothers' No. 3, on the A. Rodgers heirs' 100 acres, in the Rodgers Pool, produced 5 bbls. from a depth of 550 feet.

C. Taber Johnson's No. 6, on the Louis Petrie 126 acres, in the Roby Pool, is rated at 25 bbls. initial production.

Ronhouser and others' test, on the Emma Hite lease, proved a real duster. McKenney and others' No. 1, on the Robert Conley farm, produced 30 bbls. initially.

The Jolly Oil Syndicate drilled a duster on the R. A. Nance farm, in the southern part of the county. The Eastern Gulf Oil Co.'s second well, on the M. S. Ruby, was dry.

The test of Iley B. Browning, on the Robert Purcell farm, south of Browns Valley, hit a heavy dose of salt water in the Jett sand and drilled to the lower formation until it was impossible to make any headway and it was given up as a dry hole. Had this well come in with commercial production it would have made a long extension to the producing area of the county.

Ohio County Wells

Twenty wells were completed in the Ohio County fields since the last review of operations. The most interesting was the bringing in of a test on the John Maddox farm, near Reynolds Station, by the Wood Oil Co., good for 100 bbls. initial production. The well looks so good that the Wood Oil Co. purchased a lease on 225 acres owned by J. T. Griffith at $25 per acre and one-eighth royalty. This is the outstanding transaction in the oil industry locally.

In the Ambrose-Weller Pool, James C. Ellis drilled in No. 7 on the Griffith heirs, with an initial production around 100 bbls. His No. 3, on the Mary Cundiff, is reported at 60 bbls., and No. 7 on the C. R. Keith farm 50 bbls.

The Wood Oil Co.'s Nos. 33 and 34 on the Mary J. Elmore farm, in the heart of the Ambrose Pool, are showing for 50 bbls. each. Same company's No. 1, on the Bill Smith farm, 2 miles southeast of Friendship Church, came in a dry hole after drilling to 1,100 feet. Same company has a 500,000-foot gas well on the B. E. Reynolds farm, in the Dundee area. Same company's No. 5, on the J. E. Mitchell farm, same area, is good for 5 bbls.

French, Lyle and others drilled No. 1 on the J. W. Whittaker farm, getting a 40-bbl. initial producer.

The Ohio Oil Co.'s No. 16, on the James C. Ellis farm, in the Ambrose Pool, is good for an initial of 80 bbls. In the same pool, the Rex-Pyramid Oil Co. drilled a dry hole in No. 5 on the J. L. Seanitt farm.

Snowden & McSweeney's No. 8 J. R. Ellis farm, in the Ambrose Pool, was dry, while No. 9, same farm, is a 5-bbl. pumper.

Ohio Oil Co.'s No. 5, on the Charles Roach farm, in the Whittaker Pool, produced 60 bbls. from a depth of 580 feet.

Chester Oil Co. drilled a dry hole on the Tom Hamilton farm, in the eastern edge of the Ambrose Pool, close to the Bob Hamilton farm, which proved a heavy producer for the Cumberland Petroleum Co. and Daley & Lowman.

Bigler and Becker's No. 2, on the E. Hendricks farm, in the Whittaker Pool, is a 20-bbl. pumper, as is No. 4 on the same lease. In the same pool, S. H. Russell's No. 1, on the Brown heirs' 45 acres, produced 15 bbls. at 395 feet.

New Domain Oil & Gas Co.'s No. 1 on the Joe Brown farm, in the Fordsville area, produced 10 bbls. initially after given a shot.

Porter, Evans and others got a dry hole in a test on the L. C. Powers farm in the Dundee Field at 400 feet.

Scattered Completions

In the Settle Field, northeast of Scottsville, in Allen County, White and Pearson's No. 6, on the Jim Williams farm, is reported good for 25 bbls. initially at a depth of 243 feet.

In the Glasgow Field of Barren County, No. 14, on the Walter Browning farm, is rated good for 30 bbls. initially.

An oil and gas well, developing 1,000,000 feet of gas with a good oil showing, was struck in Metcalf County by D. Schriever, of Bowling Green, Ky., and associates of Parkersburg, W. Va. The gas was found in a 12-foot deposit of blue clay sand, and was the first well of its kind to be found in that vicinity of Metcalf County. With good evidence of oil the drillers who control several hundred acres of land in the vicinity are planning an extensive drilling campaign. The formation in which the gas was found in this well much resembles

the Blue sand of Barren County which adjoins Metcalf County.

In McLean County, Dimmick Brothers' third venture on the John Ratliff farm, proved a duster.

Field Pickups

In the Ambrose Pool, Ohio County, the Ohio Oil Co. is drilling No. 17 on the J. C. Ellis 204 acres; Cumberland Petroleum Co. is drilling No. 15 on the Bob Hamilton 176 acres, and the Mecca Oil Co. is drilling No. 17 on the Cora Wells 130 acres.

Boston-Southwestern Oil & Gas Co. is drilling No. 9 on the Mary E. Wilson 174 acres, in the Sunnydale Field, in Ohio County. In the same county, near Friendship Church, the Wood Oil Co. is drilling No. 1 on the T. J. Bennett.

In the Dundee Field, of Ohio County, Porter Evans is drilling No. 1 on the A. Whitehouse 33 acres. Arnold and others are drilling No. 1 on the Richard Coopage 33 acres, same field, and the Sunnydale Oil Co. is drilling No. 1 on the J. B. Mitchell, same field. Fred Evans is drilling No. 1 on the A. A. Carter 195 acres, in the Dukhurst Field, same county. Harry Russell is starting a test on the E. E. Fuqua, in the Deanfield area, while Oliver Jenkins and others are due in with No. 6 on the Bellamy farm, same area.

In Daviess County, Jones Pool, west of Whitesville, Jess Watts and others failed to find a pay in either the Jones and Jett sands and are going to the lower Barlow sand at No. 1 on the Wedding farm, which is an offset to good production on the Howard farm. The Petroleum Co. is drilling Nos. 2 and 3 on the Everett L. Burns farm. Rowe and Randall are drilling No. 1 on the Harry and Simmons farm. Three Sands Oil Co. is drilling No. 6 on the Alvey Tyler in the Hayden Pool. Young & Johnson are drilling a test on the Barney Mackey, an offset to Oscar Wells' production in the Brown Pool. Chenault & Thompson are drilling a test on the A. S. Edge farm, near Sugar Grove Church.

A new entrant into the Owensboro Field is pulling in a rig for the Ida Kelley lease in the Fordsville section of Ohio County. The Watsonia Oil Co. is the latest addition to the local activities. Harry Smith has a drilling contract for developing the property.

J. S. Patton was reported to have paid $10,000 for a 100-acre lease in the Friendship Chapel section of Ohio County from Payton Royal. Patton, some months ago, sold his interests in Ohio County to an Eastern syndicate for $140,000.

Butler County

W. E. Garry, well known oil man, writes from Rochester, Ky., as follows: "Have spent about two weeks in this territory (Butler County, Kentucky,) and thought you might use some first-hand information if it has not been supplied. Ralph Lingenfelter and others drilled in and shot their No. 1 on the Barton. George Best, shooter, lost his left arm making the shot. Shot bridged and while Best was over the hole pulling the wire from the hole, bridge broke, coming out before he could get away. This well was drilled to a depth of 990 feet. Top of sand at 950 feet, bottom at 986 feet. Two-foot break, 17 feet in sand. Well looks good for 20 bbls. Oil tests 39 gravity. Owing to caving and necessity of hurrying pipe to liner, they have been cleaning out since shot, daylight shift. After being bailed out it stood over night and filled up 300 feet in hole by morning, showing about 1 bailer of water. While several dry holes have been drilled in this section of Butler County in the past 10 years, chances look good for a pool being opened soon. Several wells if pumped would have made small producers. Several companies are acquiring acreage here, among them the Leeper Oil Co., of Owensboro, the Gulf and others."

MUSKEGON IS NOT GAS FIELD, SAYS GEOLOGIST

(Continued from Page 121)

Mr. Smith declared he believed the Muskegon Township well which came in with an initial flow of more than 2,000,000 feet of gas and about 400 barrels of oil to have located an extension of the present field in Muskegon Township connected by a small neck. He characterized this statement as "merely a wild guess as good as the next fellow's".

"My estimate of the total quantity of dry gas lying beneath the four sections, only half of which territory has been proven by completed wells in Muskegon Township, is 8,500,000,000 feet," said R. R. Brandenthaler, of the United States Bureau of Mines, who had been supervising mudding and drilling in of wells in the Muskegon Field for four weeks.

This estimate, according to Mr. Brandenthaler, has been checked by one of the foremost gas engineers making surveys for the largest bond house floating loans on pipe lines and pipe line companies in the country. This engineer's estimate was 10,000,000,000 feet including casinghead gas.

May Last Only Two Years

At the rate of 15,000,000 feet a day, which it has been estimated will be the maximum needed for all purposes throughout Greater Muskegon, the present known supply of gas will be exhausted in less than two years. These figures are based on an area of about 2,500 acres in Sections 4, 5, 8 and 9, Muskegon Township, scarcely half of which has been proven, and a pay horizon of from 10 to 15 feet in thickness. The latter figure is high for the present known pay in the Dundee formation.

James Graves, president of the Saginaw Development Co., told how the Saginaw Field was ruined by townlot drilling.

"Two thirds of the Saginaw Field lies northwest of the city limits of Saginaw and one third under the city extending into the downtown district," said Mr. Graves. "Within 10 square blocks an average of from one to three wells per square block was drilled. These wells are now ready to be abandoned, none producing more than a barrel or less of oil a day.

"Gas pressure, which was never more than enough to make an open flow of 15,000 to 20,000 feet per well per day, has been completely dissipated and the wells outside the city which were drilled on an average of about five acres of land are also dropping off in production. Wells which came in with a daily production of 20 barrels have fallen to less than 10 barrels.

"Townlot drilling at Saginaw caused three things, namely: First, loss of investors' money; second, lessening of real estate values in the district in which wells were drilled; and third, ruin of the entire field both in and out of the city," concluded Mr. Graves. "It is time this sort of thing was stopped in Michigan before other fields such as the Muskegon Field also are ruined."

Saginaw As a Warning

Drilling on town lots and small plots of acreage at Saginaw was done by small companies fostered by drilling contractors who wanted the work, according to Mr. Graves. Three Dundee wells, none a commercial producer, were brought in at Saginaw. The major portion of the oil has been produced from the Berea formation, small at Saginaw, and either entirely lacking or inconsiderable and tricky here. The Berea wells were discovered at a depth of about 1,800 feet and the top of the Dundee formation was encountered at 2,885 feet.

It was pointed out by Mr. Brandenthaler that one oil well to every 8 or 10 acres and one gas well to every 40 acres would be most economical in Muskegon or any other producing area in Michigan, for that matter.

It is estimated by Mr. Smith that the recovery of oil per acre in the Muskegon Field including the possibilities of the Dundee formation will be about 3,800 barrels. This means a maximum return per acre of not more than $5,000 at the present prices of crude oil. Mr. Brandenthaler's estimate is only 3,000 barrels per acre, or considerably less than this.

The amount of gas per acre was estimated by Mr. Brandenthaler to be less

EDWARD VALVES

"forged steel" for refinery use!

Refinery operations demand valves that will render a most dependable service—that require very little supervision—that will stand up under severe usage and destructive chemical reaction.

Most important is their *full area* and *easy flow.* This is accomplished by the "Y" type construction as shown in the No. 628—one of the popular refinery types.

Edward pioneered the "forged steel" valve—they are today the largest producer—with more types and improved designs—of wider service range.

The necessity for "forged steel" valves is becoming more pronounced as modern refinery processes are demanding higher pressure. This however, is not their only advantage—*Edward "forged steel" valves are outstanding in their greater strength, low maintenance and unusually long service ability.*

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Complete line to 1,350 Lbs. W. S. P. Std.

The new Edward Catalog No. 9 illustrates and describes in detail the complete line of forged steel Globe and Angle Stop Valves and Check Valves in both screwed and flanged ends for all service ranges.

They are fully "standardized" throughout making all valves interchangeable in the same style and size thus reducing maintenance and stock parts. It will pay to buy Edward forged steel valves.

No. 628—"Forged Steel," flanged bonnet, screwed ends, O. S. & Y., swivel plug seat and disc, 500 Lb. W. S. P. Seat, disc and stem of EVAlloy (stainless steel) which has great strength, hardness and resistance to corrosion.

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When you can increase the volume of gas delivered for sale, and reduce the cost of delivering that gas, your profits cannot help increasing. The Hope "40" Booster delivers more gas for sale per cubic foot of gas used for power. And that is one big reason why this new booster should appeal to you. There are many other reasons, too. Write for Bulletin 401 and be informed.

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than 3,000,000 feet. At an average of 10 cents per 1,000 feet which may be expected to be paid at the well the return for gas per acre will be about $300.

With these figures as a basis and figures as to the cost of drilling a well, which is about $7,500 to the Traverse formation and $10,000 to the Dundee formation here, the possible profit to be made on any definite amount of acreage can be fairly accurately computed. In addition to the cost of drilling the well, of course, the cost of the lease, the cost of lifting the oil after it has stopped flowing and other overhead expenses must be considered.

Large operators figure that 60 per cent of the oil will be flowed naturally if there is sufficient gas pressure. The other 40 per cent must be pumped out of the ground. And, according to Mr. Brandenthaler, only 25 per cent of the oil which is in the ground can be recovered under normal circumstances. Practically all of the gas can be recovered although a certain amount of it still will be wasted no matter what precautions are taken.

"Muskegon has a good oil field and there is money to be made here if the gas flow is properly regulated and conserved," said Mr. Smith. "During the past 60 days, however, the field was threatened with ruin by the drilling methods being used and the drilling being done on small acreage. I have slept much better since Governor Green announced that the Muskegon Field is to be protected against these abuses."

Mr. Smith explained the underground rock formations of Michigan, declaring that in general they were considered unfavorable for the discovery of oil as they lay in a basin formation with the rim surrounding the State. Folds in this huge basin which form small domes and result in the formation of many small pools of oil trapped under the domes are the hope on which the future of Michigan as an oil state depend.

"Michigan will never be a California or a Texas in the oil business," said Mr. Smith. "but we have believed for more than 30 years that a number of good small pools of oil were going to be found some day in our state. One of these pools has been located at Muskegon and we are going to do all in our power to conserve it, develop it properly and make it profitable for oil men from throughout the country to operate in Michigan.

"The Muskegon operators are cooperating in a fine way with the program of the State and if we work together we can save the Muskegon Field from the ruin with which it was threatened during the past few weeks," he concluded.

PROGRESS IN EXPERIMENTS IN PIPE MAKING BY ELECTRIC WELDING

By B. E. V. Luty

PITTSBURGH, Pa., Oct. 8.—Precise information is not yet available as to progress made by the Youngstown Sheet & Tube Co. in its experiments in making large diameter pipe by electric welding, but experiments have been in progress for some time and an early announcement of the company's entering this field would not be surprising. The company has manufactured fire welded pipe at its Youngstown works since July, 1902, and in June, 1923, it acquired the Steel & Tube Co. of America, with pipe mills at Indiana Harbor, Ind., and Evanston, Ill., while it also manufactures seamless tubing. The electric welding department would be at the Brier Hill works, near Youngstown, where the company has a plate mill.

For some time past the pipe mills have realized that electric welding, a relatively new thing, promised to become important in the manufacture of large diameter pipe, if not small pipe also. The Republic Iron & Steel Co. recently acquired rights to another electric welding process, understood to be applicable to the manufacture of smaller pipe.

Pipe and tube mills are fairly well filled with line pipe orders, some of which will require until nearly the end of the year for completion. At little new business has been taken lately.

Demand for casing and other well material continues at the recent rate and it is expected there will be little seasonal decrease in this demand, as most of the drilling activity is in the South and in California.

Standard pipe continues in good demand at nearly, if not quite, last year's rate.

Operating Percentage

Pipe mills are operating at fully 65 to 70 per cent on an average, while tube mills have a higher percentage rate, some of them being in full operation.

The steel industry as a whole is very active. Production in the year to date has been above any previous record and the present rate is the highest ever seen at this time of year, though there was a higher rate last spring and in the spring of some other years. Ingot production in September is estimated at about 85 per cent of capacity, while the rate in the last couple of weeks has been above that.

In general, specifying on third quarter contracts for finished steel products was largely completed by September 10, or thereabouts, in the lines in which price advances were attempted. in bars, shapes, plates, sheets and strips. There was heavy buying of specific tonnages also, to anticipate the price raises. Since then buying and specifying has been relatively light. There is a sort of lull in the market, with mills well sold for the time being. Without a fresh buying movement, which is hardly likely at this time of year, steel production is likely to begin tapering off in the near future, say in the closing week or two of October. Almost invariably in the past there has been lighter production in the last month or two of the year. Even with a considerable decrease this year will make a new record by passing the 1926 production. At the moment the best guess seems to be that there will be about 5 per cent gain over 1926 and fully 12 per cent gain over 1927.

Price Movement

In bars, shapes and plates the effort continues to make 2.00 cents, Pittsburgh, the regular market for odd lots, the larger buyers having had opportunity to contract at various slight concessions from this figure. Some mills have been willing to sell moderate size lots at 1.90 cents, but it is a question whether this will continue. The advanced prices of 2.75 cents on black sheets and 3.50 cents on galvanized sheets which became effective fully three weeks ago are very well maintained, as nearly all mills are filled for early deliveries. Orders sometimes make the rounds before they find a mill able to make desired deliveries.

The unusual activity in steel is due chiefly to record fabricated structural steel construction, to the large pipe buying of the last three months and more and to the automobile industry running at record high rate.

MAP CO. MOVES

The Mid-Continent Map. Co. of Tulsa, Okla., has moved, and according to its announcement, is now in the highest office in Oklahoma on the twenty-third floor of the new Exchange National Bank tower.

GOVERNMENT OIL ROYALTIES

Federal royalties from oil, gas and natural gasoline produced in the Rocky Mountain district during July totaled $247,336. Most of this royalty came from the Salt Creek Field in Wyoming.

This high copper bronze alloy actually resists sulphuric acid!

Barberite Standard Gate Valve—Screwed Bonnet—Screwed Ends

Barberite Standard Gate Valve—Bolted Bonnet—Screwed or Flanged Ends

That's good news for oil refineries with their sulphuric acid problems, for Barberite meets them as never before. It was specially developed for this purpose and is the result of extensive research—the final selection from a group of more than 200 alloys developed and tested.

Barberite is a high copper bronze alloy containing nickel, and has corrosion-resisting qualities in many instances superior to white nickel alloys and other high copper bronzes. Its high tensile strength is comparable with mild and medium carbon steels.

Barberite is tough, elastic, dense. While silicon is one of the elements used, this alloy does not show a tendency to segregate, separate into pockets, or crystallize, causing weak spots.

Here are some definite facts about Barberite. Immersed in 16% and 60% sulphuric acid at room temperature over a period of one year in laboratory tests, Barberite showed no corrosion loss. In 16% sulphuric acid at 96 degrees Centigrade (205 degrees Fahrenheit) for 100 hours—and no loss. In 60% sulphuric acid at same temperature and same time—loss was negligible.

Besides successfully resisting sulphuric acid, Barberite resists many other acids, bases, salts, and organic compounds—a list is given in our folder which we will gladly send upon request.

Barberite Standard Gate Valves are furnished in these sizes: Screwed bonnet, screwed ends, ¾", 1", 1½". Bolted bonnet, screwed or flanged ends, 2", 3", 4", 6", 8".

We are prepared to make special Barberite castings from patterns furnished, or will make patterns to order.

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PATENTS PENDING

Non-Corrosive Acid-Resisting

VALVES and SPECIAL CASTINGS

for Oil Refineries and General Chemical Purposes

Great Growth in Automobile Exports

Value Now Exceeds Value of Petroleum Exportations. Monthly Review of Oil Developments in Foreign Lands

Specially Contributed

For the first time in the commercial history of the United States the export of automobiles, trucks and parts during 1928 will exceed in value that of American exports of petroleum products. In other words, the value of our exports of petroleum-consuming devices will exceed in value the dollars and cents value of the petroleum products themselves.

The increasing record-breaking activities of the American automotive industry in extending its foreign trade, which has typified its efforts since the first of January, 1928, are brought out more clearly in the total valuation of the exports during the first six months of the current year, amounting to $259,934,682. This represents an increase of $38,571,576, or 17.4 per cent, over the previous high mark established during the first six months of 1927, at which time total automotive shipments amounted to $221,363,106. These figures also represent a gain of $77,868,109, or 42.8 per cent, over the exports for the first half of 1926, amounting to $182,066,573.

While Europe absorbs some 48 per cent of our oil exports, in taking 32.4 per cent of United States exports of passenger automobiles during 1927 Europe bought 71.7 per cent more than in 1926 and about 187 per cent more than in 1923. Second position was taken by South America, with 18.7 per cent, increasing nearly 90 per cent over 1926 and 260 per cent over 1923. The total for North America was close to that of South America.

While most American oil companies find that automobile registration in foreign countries is probably the best and most accurate index of the trend in gasoline and lubricating oil consumption, it should be noted in passing that other industries of great potential importance should not be neglected. Many European countries, for instance, have extensive networks of canal and other inland waterways on which the internal combustion motor is just beginning to come into use. At the same time these countries on the seaboard have large and important fishing fleets in which the competitive demands for increasing efficiency are calling for the greater use of gasoline, kerosene and distillate-consuming motors to displace the time-old sailing ships and even the limited number of steam-driven trawlers. In England and other European countries of short-distance, large-volume freight and passenger haul, the motor truck and bus have already forced reductions in the railroad freight and passenger tariffs. From Persia comes word that the recent completion of a surfaced highway now permits of economical long-distance freight and passenger haul, which has immediately put out of business a highly profitable commercial airplane service over the same route.

Holland's Imports Greater

With the exception of kerosene, imports into Holland of all classes of refined petroleum products during the first half of 1928 showed a decided increase over a year ago, the greatest advance being that of gasoline, which rose from 63,770 metric tons in the first six months of 1927 to 91,359 tons in the same period of 1928. Of this amount, 63,863 tons were imported from the United States and 17,813 from the Dutch East Indies, the corresponding figures for the first half of 1927 being 54,167 and 1,807 tons, respectively.

No imports of gasoline are listed as coming from European Russia, although 819 tons were credited to Russia in the first six months of 1927. The increase in imports from Belgium from 6,912 to 9,442 tons is due to American gasoline routed through Belgium, chiefly the products of one of the three American companies which have branch offices in this country.

Fuel oil imports rose from 73,830 to 84,994 metric tons, of which the amount supplied by Curacao remained practically constant, 54,080 tons in 1927 and 54,481 in 1928. Imports from the United States rose from 6,000 to 11,938 tons, and those from Mexico from 4,979 to 14,948 tons.

Total imports of gas oil also showed a substantial increase from 41,922 to 59,083 metric tons, practically all of which may be accounted for by the rise in imports from the United States from 20,990 tons to 35,917 tons, compared with 20,247 in the first half of 1927.

Using More Lubricants

Mineral lubricating oils were imported to the extent of 25,291 metric tons in the first six months of 1928, as against 22,724 in the same period of 1927; 9,222 tons were imported direct from the United States, compared with 6,385 tons in 1927. Belgium supplied 12,544 metric tons (13,221 in the first six months of 1927), practically all of which consisted of transshipments of American oils.

In addition to the petroleum products imported for Dutch consumption, there is a large volume of traffic in bond, chiefly into Germany. During the first half of 1928, 17,442 metric tons of kerosene were transshipped through the Netherlands, of which 16,562 went to Germany. Transshipments of gasoline amounted to 103,577 tons, of which 80,351 tons went to Germany, 17,719 tons to Belgium and 1,363 tons into Switzerland. Gas oil transshipments amounted to 14,811 tons, of which 13,764 went to Germany and 1,047 to Sweden. Mineral lubricating oil transshipments totaled 6,341 tons, practically all of which, or 6,335, went to Germany. The great bulk of this traffic passes through the port of Rotterdam, whence the oil passes by means of Rhine barges into South Germany.

The increase in gasoline consumption in the Netherlands may be attributed to the gradual motorization of both the inland canal and river barges and of the Dutch North Sea fishing fleet, and in a greater degree to the increasing number of automobiles in use in this country. The number of large passenger buses, heavy consumers of gasoline, has increased considerably, the larger size of commercial vehicles, including buses, being shown by the increase in unit value from $804 to $1,152 in the case of commercial vehicles with bodies, and from $502 to $668 in the case of chassis only.

Polish Petroleum Industry

Polish crude oil production during the month of May, 1928, according to preliminary official statistics was as follows:

	Metric tons
Drohobycz	51,600
Jaslo	6,200
Stanislawow	3,420
	61,220

The slight increase in crude oil production during May (2,167 tons more than in April) is said to be due to the recent drillings effected in the Boryslaw district.

Production of crude oil of the Boryslaw brand amounted to approximately 45,000 metric tons, or 1,450 per day, an increase of 2,100 tons over the April production with 1,430 tons per day. On the other hand, the output of crude oil of other types remained practically unchanged.

Several important new drillings were reported to have been completed by the end of June. Stocks of crude oil on hand increased from 25,351 metric tons in April to 45,796 tons in May, the increase being due to the depression of the petroleum market and decreased activities in refineries.

According to official preliminary statistics, the total amount of crude oil used by Polish refineries in May, 1928, was 53,021, compared with 53,086 tons in April. This decline is said to be due to unfavorable transportation conditions and to the fact that refineries are withholding their purchases of raw material expecting a decline of prices of crude oil.

The following table shows the movement of petroleum products during the month of May, 1928:

	Metric tons
Crude oil used	53,021
Petroleum products manufactured	48,041
Home consumption	23,547
Exports of petroleum products	20,326
Stocks of petroleum products	295,325

The internal consumption of petroleum products increased slightly during the month compared with the preceding month, due to an increased demand for refined oil. Exports of petroleum products in May, 1928, showed a decline and amounted to 20,326 metric tons, or 1,390 tons less than in April.

Anglo Persian Refining Activities

The largest refinery of the Anglo Persian Oil Co., Ltd., is located at the port of Swansea, Wales, England, and the following data on the petroleum trade are the best possible index of the conditions prevailing in the English refining industry.

Imports and exports of petroleum and its products through the port of Swansea, Wales, in the second quarter of 1928, compared with the same period of 1927, were as follows, in Imperial gallons. (Imperial gallon is equal to 1.2 U. S. gallons.)

	IMPORTS —Second quarter of— 1927	1928
Commodities—		
Crude petroleum	101,118,250	62,203,9[illegible]
Once run distillate	27,529,000	21,663,3[illegible]
Total	128,647,250	83,867,3[illegible]
	EXPORTS	
Fuel oil	5,529,290	2,039,4[illegible]
Gasoline	1,188,000	2,437,2[illegible]
Kerosene	1,690,659	3,287,7[illegible]
Benzine	.....	530,3[illegible]
Total	8,407,949	8,294,7[illegible]

The imports were all from Abadan, Persia, and were brought to the local refinery of the Anglo Persian Oil Co. in tanker vessels of the British Tankers, Ltd.

While the above table shows a decrease of 44,779,943 gallons in the imports of the past quarter, compared with the second quarter of 1927, the imports showed an increase over those of the first quarter of 1928.

Exports of the past quarter showed a decrease of 113,185 gallons compared with the same period of 1927, and a decrease of 11,847,614 gallons to those of the first quarter of this year.

The exports went to the following countries:

Destination—	Fuel Oil	Gasoline	Kerosene	Benzine
Ireland	.....	1,411,802	1,087,640	.....
Belgium	651,425	627,768	.....	.....
Italy	870,950	106,408	376,258	.....
Norway	.....	291,226	227,973	.....
Germany	.....	.....	1,595,887	.....
Greece	248,434	.....	.....	.....
France	268,601	.....	.....	.....
Denmark	.....	.....	.....	530,3[illegible]
Total	2,039,410	2,437,204	3,287,758	530,3[illegible]

BRIEF ANALYSIS OF OUR OIL TRADE WITH SOUTH AMERICAN COUNTRIES

Specially Contributed

An interesting field for mental speculation is offered by a brief analysis of United States imports of foreign petroleum, exports of refined products, and, particularly, our exports of refined products to Central and South American countries.

Crude petroleum constituted 8.6 per cent of our total petroleum exports for the first six months of 1928, as compared with 8.7 per cent for the same period of 1927. Crude oil accounted for 85 per cent of our total oil imports in the first half of 1928, as against 77 per cent in 1927.

TABLE 1
UNITED STATES PETROLEUM EXPORTS

Product—	Six months ended— June, 1927	June, 1928
Crude petroleum, bbls.	7,538,725	8,672,347
Gasoline, naphthas, etc.	22,077,143	26,101,042
In bulk	19,619,702	23,753,721
In containers	2,457,441	2,347,321
Kerosene	9,419,624	11,293,203
In bulk	6,738,590	8,360,880
In containers	2,680,034	2,932,323
Gas and fuel oil	21,166,986	22,344,950
Lubricating oil	4,674,403	5,723,452
Turpentine substitute, gals.	1,878,729	1,105,064
Transformer oil, gals.	1,496,129	1,808,396
Light lub oil in pkgs., gals.	275,440	318,484
Total refined oils	60,988,454	68,694,591
Greases, lbs.	48,096,912	52,996,108
Paraffin wax, 1 s.	156,262,974	220,690,936
Asphalt, tons	175,925	293,427
Coke, tons	46,805	62,270
Residuum, bbls.	101,862	38,403

TABLE 2
UNITED STATES PETROLEUM IMPORTS

Product—	Six months ended— June, 1927	June, 1928
Crude petroleum:		
Source, bbls.:		
Mexico	12,890,513	8,601,002
Dutch West Indies	3,678,790	11,945,734
Columbia	3,676,001	6,364,025
Peru	1,211,188	591,151
Venezuela	4,080,650	10,002,660
Other countries	457,958	685,734
Total crude	25,995,100	38,190,306
Refined oils:		
Topped, incl. fuel	4,721,101	4,494,610
Tops and unfinished distillate	61,950	16,946
Gasoline, naphtha, etc.	2,886,129	2,245,925
Kerosene	8,500	106,016
Lubricating oils	4,430	5,918
Total refined oils, bbls.	7,682,110	6,869,415
Paraffin wax, lbs.	6,052,493	10,779,488

Tariff Difficulties

The international character of the oil industry and the difficulties attendant upon any regulation of this trade by tariff are clearly shown by an analysis of our oil export trade to South America for the past two years and a half taken in conjunction with the increasing refining capacity of South American countries.

Our total exports of refined liquid petroleum products to South America for 1926 were 20,253,507 bbls.; for 1927, 28,432,202 bbls., and multiplying our exports for the first six months of 1928 by two gives us a total estimated export for 1928 of 27,717,728 bbls.

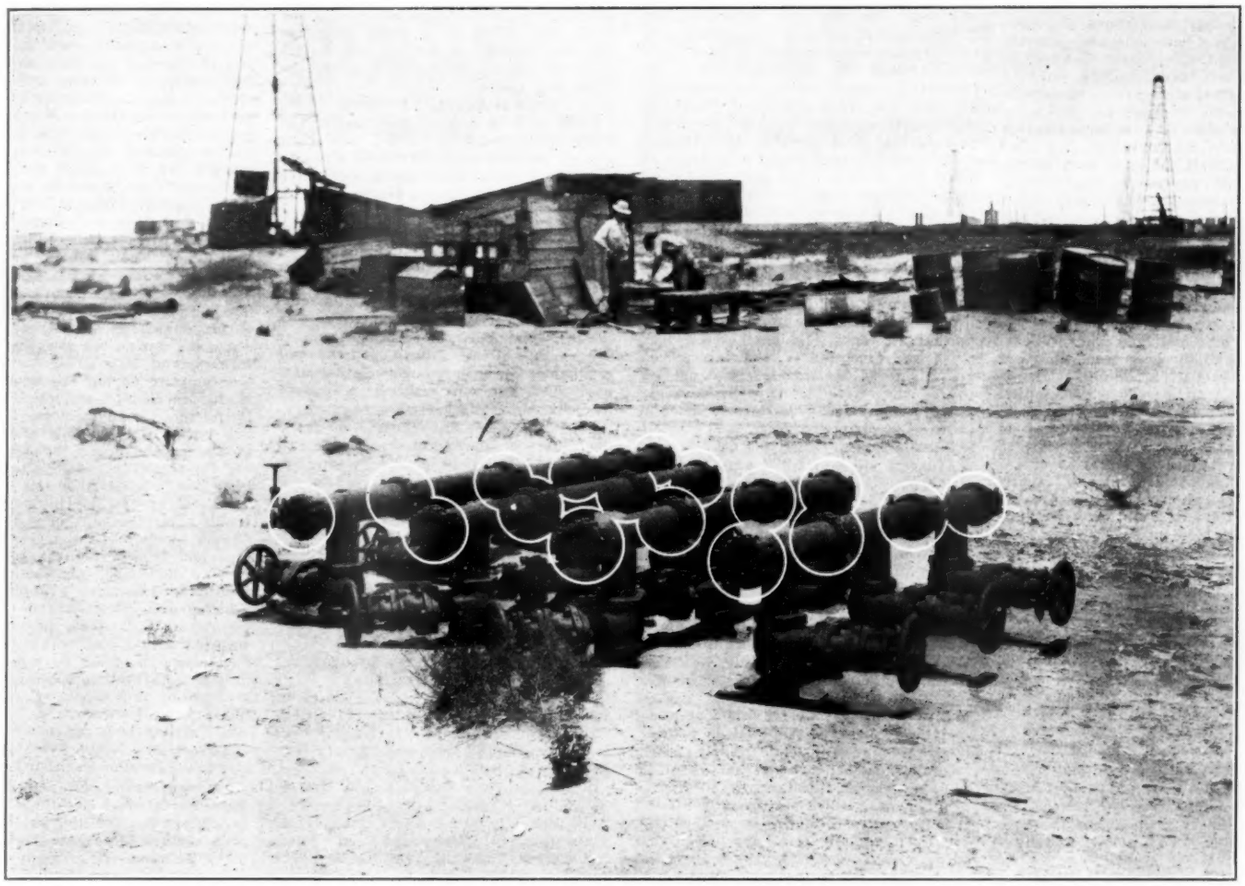
During the period of 1927 and 1928 the crude oil production of Central and South America will increase from approximately 166,650,000 bbls. to 199,240,000 bbls., as follows:

	1927	1928*
Venezuela	64,000,000	110,000,000
Mexico	64,000,000	45,000,000
Colombia	14,600,000	20,000,000
Peru	9,900,000	10,000,000
Argentina	8,500,000	8,500,000
Trinidad	5,200,000	5,200,000

(Continued on Page 137)

VICTAULIC COUPLINGS

The All Purpose Coupling



The photograph above shows Victaulic Couplings and Fittings used on manifold, hooking up wells to tank battery, Winkler Pool, West Texas. Pipe for this hook-up was cut and grooved in this large producing company's own shop with a Victaulic Grooving Tool and Pipe Cutter, and illustrates how many major producing companies are taking advantage of the simplicity, leak-proofness, ease and quick installation of Victaulic Couplings to effect substantial savings in time, money and labor in reclaiming pipe for short lengths of temporary and permanent lines, as well as for use in connection with the laying of new lines of steel, wrought iron and cast iron pipe of all sizes.

The illustrations below indicate the wide range of uses in which Victaulic Couplings are providing leak-proof joints at a minimum of labor and maintenance costs.

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SMITH SEPARATOR COMPANY
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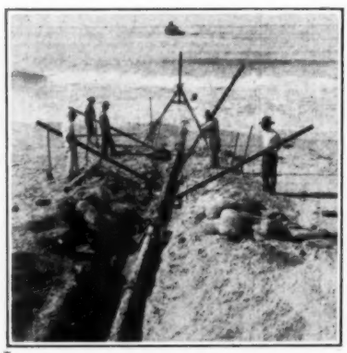
HOUSTON FORT WORTH SHREVEPORT LOS ANGELES

GAS OIL SEWAGE WATER

20-Inch Victaulic Coupled Gas Gathering Line. The Skelly Oil Co., Pampa, Texas.

12-Inch Steel Gathering Line of a Major Pipe Line Company, Seminole, Oklahoma.

24-Inch Cast Iron Sewage Line. City of Houston, Texas.



6-Inch Cast Iron Water Line, Supplying Salt Water to Outdoor Plunge, Santa Barbara, Calif.

MAGNETOMETER STUDY OF STATE OF KANSAS

(Continued from Page 41)

of the buried granite ridge which extends across Kansas in a nearly straight line from Nemaha County on the north to western Cowley County on the south. No oil has been discovered above or on the flanks of this buried ridge in the north part of the State, but on the west side in Marion County, and above the ridge in the vicinity of Eldorado and Augusta and in western Cowley County, important fields have been developed. A strongly defined anticlinal structure in the stratified rocks of the Permian age which occur at the surface in this region marks the trend of the underlying granite. The oil at Eldorado is found in part of the uplifted sedimentary rocks. The accumulation covers several square miles, and because of the porous character of the sand and limestone in which the oil occurs, production has been very prolific. While some oil and gas are obtained in the Pennsylvanian, most of the production has come from the more or less weathered parts of Ordovician rocks, chiefly the "siliceous lime" and Wilcox. Farther south oil has been produced mainly from sands that lie on the flanks of the major anticline above the granite.

While it is possible that no new field will be discovered which will yield as much oil as Eldorado, it is known that there are important possibilities of future production in certain parts of this district. Exploration in western Cowley and eastern Sumner Counties is very difficult because there are no surface hard rocks which show the detailed structure of the rock strata. * * * In Marion County, and possibly farther north, bodies of sand deposited on the flanks of the uplift have been found or may be found productive of oil. In this region also there is possibility of production from porous zones in pre-Pennsylvanian rocks. Since for the most part there are no good surface evidences of oil accumulation, exploration is hazardous.

Western Kansas

(4) In the fourth district may be included all of the western part of Kansas beyond the Granite Ridge district. A convenient eastern boundary is the sixth prime meridian which crosses the State from north to south through Wichita. Up to the present time oil in commercial quantities has been found in only a few parts of this great territory. * * * On January 1, 1927, a 150-bbl. well was brought in near Abbyville, Reno County. The largest oil yield and most interesting development in western Kansas is in Russell County, approximately 135 miles northwest of the El Dorado Field. The oil here occurs along a well-defined north-south trending anticline. * * * The main pay zone lies near the bottom of the Pennsylvanian rocks in this region, and is encountered at a depth around 3,000 feet. Deeper pay zones have been encountered in some wells. An interesting oil field has been developed about 12 miles north of Hutchinson in the southeast part of Rice County. In Kingman County oil has been found at a depth of 4,000 feet in beds which may correspond to the siliceous lime. * * * Reports of oil and gas in adjacent territory, especially to the south, seem to suggest that production of commercial importance may be found there.

Several tests have been drilled in various parts of western Kansas, one in Hamilton County to a depth of 5,488 feet and another in Clark County to 5 679 feet. With the exception of showings of oil and gas these explorations have not yet proved successful. The deep Clark County well in Section 20-32s-21w, reported a showing of oil at 5,318 feet and 25,000,000 feet of gas at 5,304 feet. A well west of Liberal in Seward County reported 10,000 000 feet of gas at a depth of about 2,700 feet. In June, 1927, a wildcat well southwest of Hugoton, Stevens County, struck a flow of gas estimated between 7,000,000 and 10,000 000 feet in a porous layer tapped at 2,600 feet. In July, 1927, a 200-bbl. wildcat well was brought in at a depth of 3 257 feet in southeastern Rooks County. This is 22 miles northwest of the Fairport Pool of Russell County.

The finding of oil in Russell County, the successful developments of gas at Wray, Colo., just west of the northwest corner of Kansas, the knowledge of a fairly prominent anticline trending south from the line between Decatur and Norton Counties, and the scattered showings of oil and gas which have been mentioned encourage prospecting in the western part of Kansas. However, the fact that through many hundreds of square miles in this section of the State there are surface deposits of sand and gravel which conceal the underlying stratified rocks and make surface observations of structure impossible, and the fact that many of the surface beds that are exposed lack good key beds for structural geologic study, make exploration for oil in this region unusually difficult. Further, the very deep borings which have been put down in Clark and Hamilton Counties show that the Pennsylvanian lies at great depth, and unless oil is found in higher beds the expense of drilling will be an important factor in the attempt to develop new fields.

General Magnetic Features

Plate 1 shows a small scale map of the State of Kansas on which has been plotted the location of towns or cities at which readings of magnetic intensity have been made by the United States Coast & Geodetic Survey. The value of the vertical component of these magnetic intensities are also shown for each station. These values of vertical intensity have been used in contouring the map on a 100 gamma interval. The important outstanding features of this plate are (a) the general northwest-southeast trend of the contour lines with a general and gradual decrease in intensity in a southwest direction, (b) several prominent magnetic highs and lows.

Plate 2 shows the vertical magnetic anomalies for the State of Kansas. To the values of vertical magnetic intensities as shown in Plate 1 there have been applied corrections for latitude and longitude as explained in another article. These corrections are made on the assumption that there is a normal decrease in the earth's magnetic field intensity as the distance from the north pole is increased. After this regional correction is taken into account there results the magnetic anomalies for the State.

The important features brought out by this map are the following:

A. Magnetic highs in the vicinity of (a) Troy, (b) Clay Center, (c) Beloit, (d) Norton, (e) Gove, (f) Lyndon, (g) Leavenworth, (h) Independence, (i) Wellington, (j) Medicine Lodge, (k) St John, (l) Jetmore, (m) Coolidge, (n) Greensburgh, (o) Liberal.

B. Magnetic lows in the vicinity of (a) Haiwatha, (b) Marysville, (c) Smith Center, (d) Atwood, (e) Oakley, (f) Paola, (g) Lawrence, (h) Oswego, (i) El Dorado, (j) Coldwater, (k) Great Bend, (l) Wakeeney, (m) Ulysses, (n) Dodge City.

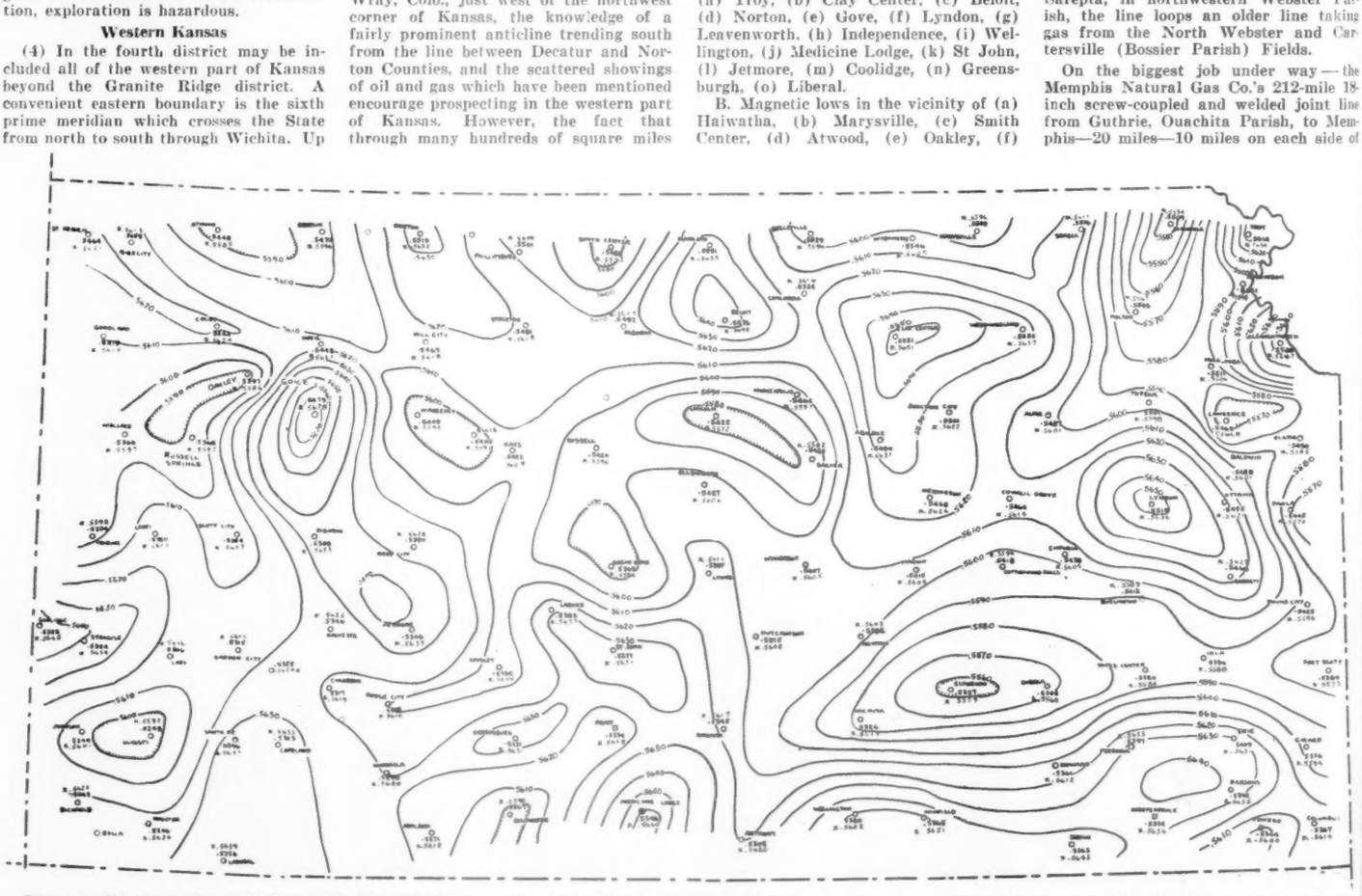


*Plate 2—Vertical Magnetic Intensity Map of Kansas. Corrected for regional variations. Readings at each station marked with * indicate the Vertical Intensity after regional corrections have been applied and are the values used in contouring. Contour interval 100 gamma. Drawn by L. Spraragen.*

Rapid Progress Made On Natural Gas Lines In Shreveport Area

SHREVEPORT, La., Oct. 6. — Ideal weather has greatly expedited construction of the four gas lines under way in the Shreveport division and completion of the largest was expected during the week beginning October 8, while one was completed this week. The latter is the Palmer Corp.'s 25-mile 8-inch Dresser coupled line from Sligo and Elm Grove to Bossier City where it is hooked into the Bossier-Shreveport distributing system.

Magnolia Gas Co.'s 135-mile 16, 18, and 20-inch electrically welded line from Latex station in Panola County, Texas, 3 miles west of Bethany, La.-Tex., to Sterlington and Alto in the Monroe and Richland gas fields, was expected to be completed during the week beginning October 8 and tested and turned over to the company during the week following. E. A. Macpherson and the A. O. Smith Corp. were the contractors. Construction was begun early in July and progressed at an average of 1¼ to 1½ miles per day for the 80 days it has taken to complete the job. In this line a new idea developed by the A. O. Smith Corp. in taking care of expansion and contraction due to temperature changes in the soil, pipe and transported gas is an innovation in pipe line construction. It consists of an expansion joint described and illustrated in The Oil and Gas Journal of August 2, and its behavior will be watched with a great deal of interest by engineers and others having anything to do with construction, operation and maintenance of pipe lines. From Latex to Sarepta, in northwestern Webster Parish, the line loops an older line taking gas from the North Webster and Cartersville (Bossier Parish) Fields.

On the biggest job under way — the Memphis Natural Gas Co.'s 212-mile 18-inch screw-coupled and welded joint line from Guthrie, Ouachita Parish, to Memphis—20 miles—10 miles on each side of

the Mississippi River, has been ditched, laid and covered and pipe is strung for the greater part of the entire distance. Six gangs are at work on the job for which Ford, Bacon and Davis are the contractors. Three of these are on the longest stretch, from the river crossing a short distance below Greenville, Miss., to Memphis, one on the river crossing section and two between Guthrie and the river. So far they have averaged 4,000 feet per gang per day. Weather has played an important part in maintaining this average as it has been such that delivery of supplies and equipment all along the line has been possible by truck. That two-thirds of the 212 miles of pipe has been strung is due to this fact for, had there been a rainy season teams hauling one or two joints at a load would have had to be used through the low country along much of the right of way.

Booth & Flynn, of Pittsburgh, Pa., building 95 miles of 10-inch line for the Arkansas Natural Gas Co. from the Clarksville, Johnson County, Field, to Little Rock has gas into Conway, 40 miles north of Little Rock, and three gangs are working between Conway and the field, and two river gangs taking care of the numerous small stream crossings. The line is acetylene welded the entire distance, and probably will be completed, tested and in service by December 1. Meanwhile rapid progress is being made on installation of distributing systems in Conway, Morrilton, Russellville and other smaller communities along the right of way and Clarksville like Conway already has gas.

ANALYSIS OF OIL TRADE WITH SOUTH AMERICA

(Continued from Page 132)

Ecuador	450,000	540,000
Total, bbls.	166,650,000	199,240,000

*Estimated.

Expressed in another way, the estimated annual increased crude oil production of South America in 1928 over 1927 will be just slightly in excess of our exports of refined products to the same general area, or 32,590,000 bbls. of crude oil production contrasted with 27,717,728 bbls. of refined products to be exported from the United States.

Increasing Consumption

Accurate and up-to-date figures on consumption of oil products in South America are not available, but it is clearly evident that since Central and South America are rapidly increasing their crude oil production and drawing on the United States for only some 27,000,000 or 28,000,000 bbls. of refined products a year, that additional South American refinery capacity of only some 77,000-80,000 bbls. per day of crude oil would entirely displace our present export trade with South America and that one single refinery equivalent to the Royal Dutch Shell refinery at Curacao, Dutch West Indies, now operating at, or near, 100,000 bbls. per day, could take care of the increased refined oil requirements of all of Central and South America now supplied from the United States if individual tar.ffs

UNITED STATES PETROLEUM EXPORTS TO CENTRAL AND SOUTH AMERICA

(Barrels of 42 gallons)

Product—	First six months 1927	First six months 1928	Twelve months 1927	Twelve months 1926
Gasoline	1,856,011	2,918,326	3,821,139	3,509,317
Kerosene	850,983	646,535	1,422,059	1,431,695
Gas and fuel oil	11,289,205	9,895,571	22,377,381	14,668,133
Lub oil, red and pale	242,602	248,376	535,927	382,819
Lub oil, cylinder	112,898	150,056	275,696	261,543
Total	14,351,699	13,858,864	28,432,202	20,253,507
Estimated year 1928		27,717,728		
Paraffin wax, lbs.	32,310,810	46,596,267	73,958,447	63,277,032

GASOLINE

	First six months 1927	First six months 1928	Twelve months 1927	Twelve months 1926
Panama	29,003	71,727	96,548	167,968
Mexico	149,775	158,906	364,465	224,782
Cuba	301,169	418,326	488,867	821,686
Dominican Republic	35,142	43,891	72,189	58,736
Argentina	490,968	1,059,546	1,349,996	680,705
Brazil	570,750	841,289	942,660	1,054,945
Uruguay	187,295	203,949	353,355	391,901
Other South American countries	91,909	120,192	153,059	108,894
Total gasoline	1,856,011	2,917,826	3,821,139	3,509,617

KEROSENE

	First six months 1927	First six months 1928	Twelve months 1927	Twelve months 1926
Central America	36,102	22,057	54,997	110,983
West Indies and Bermuda	81,286	102,845	158,990	152,316
Argentina	250,751	94,562	336,200	326,301
Brazil	360,105	328,254	648,462	623,079
Uruguay	122,739	98,817	225,410	219,016
Total	850,983	646,535	1,424,059	1,431,695

GAS AND FUEL OIL

	First six months 1927	First six months 1928	Twelve months 1927	Twelve months 1926
Panama	4,445,079	3,001,505	7,360,016	5,105,994
Mexico	575,670	477,393	1,042,743	924,232
Cuba	929,078	1,223,883	1,942,460	251,738
Other West Indies and Bermuda	284,514	183,980	543,926	323,622
Argentina	1,747,253	1,355,961	4,307,750	2,140,329
Brazil	557,712	431,322	1,166,336	614,256
Chile	2,062,944	2,579,164	4,349,966	4,348,362
Other South American countries	686,955	642,363	1,664,185	959,600
Total	11,289,205	9,895,571	22,377,382	14,668,133

LUBRICATING OIL—RED AND PALE

	First six months 1927	First six months 1928	Twelve months 1927	Twelve months 1926
Mexico	29,626	31,393	46,071	32,611
Cuba	24,649	25,530	59,264	47,097
Argentina	71,871	103,281	193,616	91,487
Brazil	71,958	96,171	137,044	117,970
Chile	16,392	20,693	36,198	32,640
Other South American countries	28,106	31,308	63,735	61,014
Total	242,602	268,376	535,927	382,819

LUBRICATING OIL—CYLINDER

	First six months 1927	First six months 1928	Twelve months 1927	Twelve months 1926
Mexico	9,241	18,739	22,240	43,886
Cuba	17,290	16,094	30,388	29,958
Argentina	36,921	32,488	110,194	98,471
Brazil	24,235	58,294	55,794	56,102
Chile	7,307	7,284	17,679	17,308
Other South American countries	17,904	17,157	39,401	35,818
Total	112,898	150,056	275,696	281,543

PARAFFIN WAX

(In pounds)

	First six months 1927	First six months 1928	Twelve months 1927	Twelve months 1926
Central America	(*)	(*)	7,140,007	6,568,776
Mexico	7,685,939	9,244,196	18,439,412	12,583,471
Cuba	1,986,167	1,779,324	3,274,841	3,018,422
Argentina	6,635,200	6,676,520	14,273,764	9,615,940
Chile	3,158,783	17,722,167	7,813,935	8,592,912
Colombia	4,565,357	4,972,897	7,654,712	8,725,683
Peru	2,341,073	1,989,475	4,808,501	4,986,819
Other South American countries	5,948,291	4,211,688	10,553,275	9,185,009
Total	32,310,810	46,596,267	73,958,447	63,277,032

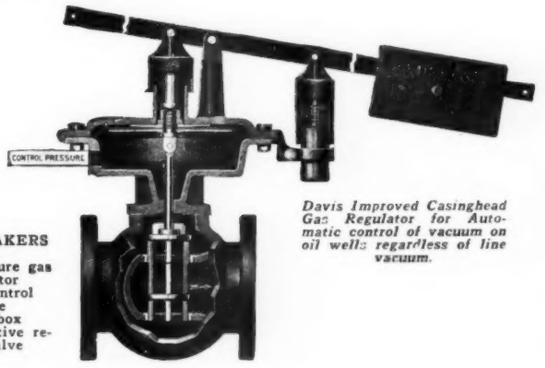
*Included in other South American countries

Just one internal movable part!

THE absolute simplicity of Davis design—there is only one internal movable part—is its own protection against failure in this Davis Casing Head Gas Regulator. It is an automatic valve designed to control the vacuum on oil and gas wells, especially where a number of wells are operated from one vacuum line.

Operation is extremely simple—the counterweight holds the valve open, and the vacuum closes it. No complicated mechanism to get out of order. Only the balanced, bevel seated disc which is securely coupled to a flexible diaphragm—the one internal movable part.

Thousands of Davis Casing Head Gas Regulators are in use. Practically every natural gasoline manufacturer throughout the country has them. And there are many other Davis specialties bringing savings and protection in the oil and gas industry. Send for new catalog giving a complete description and details of their construction and design.



Davis Improved Casinghead Gas Regulator for Automatic control of vacuum on oil wells regardless of line vacuum.

ALSO MAKERS OF
Low pressure gas regulator
Fluid control valve
Float box
Supersensitive relief valve

G. M. DAVIS REGULATOR CO.
409 Milwaukee Avenue
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Valve makers for over fifty years

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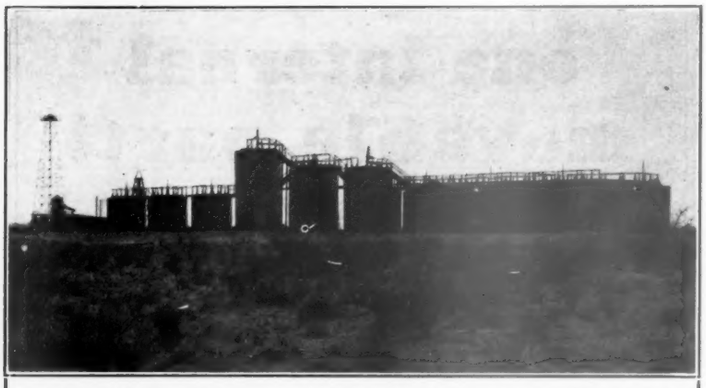

Twelve 500-Bbl. Maloneys with two 750-Bbl. and one 900-Bbl. Flow Tanks in Winkler County, Texas, used by the Southern Crude Purchasing Co. and Westbrook Oil Company.

MALONEYS OFFER UTMOST TANK VALUE

MALONEYS offer the buyer utmost tank value because—for the price of ordinary bolted steel tanks—they give remarkable durability, exceptional tightness and extra strength. The Keystone Copper Steel of which MALONEYS are made is the most durable of sheet steels. Our patented "crimp" at seams and joints, our superior rubber packing and our Gaso cement are factors in superior tightness. Our method of reinforcing seams with rigid steel channels, and our special bolts with a tensile strength of 90,000 pounds contribute to extra strength.

MALONEY cleaning out plates are large and set flush with bottoms. Painting is with Maloney special pearl gray paint. We use only the very best valves and thief hatches.

"Alone in Quality"

MALONEY TANK MFG. COMPANY

Tulsa, Okla., U. S. A.

Distributors at All Principal Petroleum Points

Sizes: 12 to 10,000 Barrels

Packed in Steel-Bound Crates for Export

Howell Aluminum "4-in-1" Vacuum Pressure Valve and Thief-Hatch—The BEST and LATEST Deck Equipment—POSITIVE Safety.

MADE OF KEYSTONE COPPER STEEL

MALONEY PATENTED BOLTED COPPER-STEEL TANKS

MADE OF KEYSTONE COPPER STEEL

MALONEY ALONE

permitted competition with refineries operating within the individual countries.

The strong position enjoyed by the Standard Oil Co. of New Jersey and its various subsidiaries in South America, the Tropcial Oil Co., West India Oil Co. and others is clearly evident, since with production, actual and potential, as well as refineries in practically every South American country, this company is bound to supply a constantly larger proportion of the South American trade on a basis that will permit of little outside competition.

DAILY REFINING CAPACITY*—SOUTH AMERICA (EXCLUSIVE OF MEXICO)

(Approximate)

Country—	Company	Capacity
Colombia	Tropical Oil Co.	6,500
Peru	Standard Oil Co. of New Jersey	16,000
Venezuela	Royal Dutch Shell	9,000
Venezuela	Lago (Standard Oil Co. of Indiana)	1,500
Curacao, D. W. I.	Royal Dutch Shell	100,000
Aruba, D. W. I.	Royal Dutch Shell	15,000
Aruba, D. W. I.	Standard Oil Co. of Indiana	†75,000
Trinidad	Trinidad Leaseholds Co., Ltd.	11,100
Trinidad, Port Fortin	Royal Dutch Shell	3,000
Cuba	Standard Oil Co. of New Jersey	†3,500
Argentina	Total all companies	17,000
Total		257,600

*Including topping plants. †Under construction.

Refinery Capacity

At present a considerable amount of the above refining capacity, notably that of the Dutch West Indies, is devoted to supplying exports to Europe and the United States, but it is clear that even under the existing trends of trade that the 77,000-80,000 bbls. per day of refined products supplied from the United States to South America represents only approximately 30 per cent of the total refinery capacity now available or under construction in this area.

The International Petroleum refinery (Standard of New Jersey) at Negritos has recently started the manufacture of a range of lubricating oils intended to meet the needs of all South American markets, a move which will affect the volume of lubricants exported from the United States. It is reported that the refiners have effected changes in their fuel oil intended to give more efficiency and less expense to the oil used by the Central Railway of Peru, all of whose engines have been converted into oil burners. The International has also taken over the local Callao-Lima servicing heretofore performed through the agency of Milne & Co. Hereafter, the company will maintain storage tanks at Callao and Lima, with distributing tank trucks serving gasoline and kerosene to service stations, garages and house consumers, eliminating the packing costs.

During the year 1927 the national government refinery in Argentina at La Plata has shown the following production, a basis of 716,513 cubic meters of raw material manufactured (dehydrated crude):

Fuel oil, cubic meters	604.66
Gasoline, liters	67,547,109
Kerosene, liters	27,093,256
Tractor fuel, liters	3,569,914
Aviation gasoline, liters	1,600

The figures given for aviation gasoline refer to the last two months of the year, no production having taken place prior to that during the year.

Several pieces of supplementary equipment have been installed in the plant to improve the service in the technical industrial part, and plans have been made to install a factory for containers, another for packing material, a sawmill, a box factory, to enlarge the annexes for packing gasoline, kerosene and tractor fuel, and to set up new tanks in order to increase the storage capacity for crude oil and fuel oil. Besides, as has been seen in the enumeration of the executive committee's resolutions, it has been planned to install new equipment for the cracking of fuel oil.

SOUTHWEST TEXAS

(Continued from Page 61)

feet to north line and 239 feet to west line, at 2,245 feet bailed little oil and now has bailer and line stuck in the hole.

Luling Field—Guadalupe

A. B. A. Oil Co.'s No. 4 Britton Harris, 300 feet to east line and 190 feet to south line of Britton Harris tract, is drilling at 1,250 feet. Magnolia Petroleum Co.'s No. 1 H. A. Cartier, H. Cottle Survey, 150 feet to northwest and northeast lines, is drilling at 2,071 feet.

Agua Dulce Field—Nueces

Alexander and others' No. 2 J. J. Eliff is location 4 miles east of Agua Dulce and north of the railroad; No. 1 J. J. Eliff is location 4 miles east of Agua Dulce and north of the railroad. Davis-Horn & Maddox' No. 1 Thomas Ragland, Manton and Briggs Subdivision, SW cor. of Lot 13, is building derrick. Grimm & Morris' location in the C of Section 37 in the George H. Paul Subdivision, is moving on. R. & G. Corp.'s No. 1 H. G. Yakey, Richard King Survey, is location in SW cor. of Section 37; No. 1 Ed Allen, Agua Dulce farm lots, NW cor. of Block 6, is building derrick; No. 1 Bessier Kerr, Benton's pastures, is location in NE cor. of Section 36.

Kingsville Field—Kleberg

Humble Oil & Refining Co.'s No. B-4 Dennett, Section 38, Block 19, located between Nos. B-1 and B-3, is rigging up; No. 4 Flato, Section 40, Block 10, located 250 feet to east line and 450 feet to north line, is drilling at 1,021 feet.

Three Rivers—Live Oak

J. A. Harper's No. 3 Three Rivers Co., 300 feet southwest of No. 1, has set casing at 660 feet after testing gas at that depth on drill stem test. J. W. Walton's No. 3 C. H. Wedding, 300 feet west of No. 2, is coring sand at 1,578 feet.

Refugio Field—Refugio

Houston Oil Co.'s No. 1 Wilson Heard, north offset to discovery oil well, is deepening and is drilling at 3,800 feet; No. 4 Rooke is milling out at 1,232 feet; No. 2 Wilson Heard is drilling at 1,287 feet. Houston Gulf Gas Co.'s No. A-2 Wilson Heard, located 600 feet northeast of the discovery oil well, is at 3,630 feet and has set and cemented casing; No. 3 J. M. O'Brien at 3,700 feet on drill stem test showed gas with 1,200 pounds rock pressure and is setting casing. Rutherford & Pearson's No. 1 J. M. O'Brien is drilling at 2,800 feet. Sun Oil Co.'s No. 1 John Buckley is drilling at 2,170 feet. Saxet Gas Co.'s No. 4 Claude Heard, at 3,690 feet is making gas and spraying considerable oil with gas pressure reduced. Texas Gas Co.'s No. 2 Claude Heard, rigged up and shut down, has been sold to Benedum & Trees. Texas Gas Co.'s No. 1 Holmes Heard, northern end of the field, is drilling at 2,500 feet.

White Point—San Patricio

Saxet Gas Co.'s No. 16 White Point Gas Co., Rachall Survey, SW cor., is milling out at 1,800 feet. W. L. Pearson's No. 1 Mitchel is to deepen from 2,400 feet.

West Field—Zavala

Tritex Oil Corp.'s No. 3 West, M. Suniga Survey No. 44, located 4,800 feet to west line and 900 feet to south line, at 800 feet is drilling in estimated at 12,000,000-foot gas well. Mirando Gas Co.'s No. 3 West, Survey 43, located 2,600 feet east of No. 1, is drilling at 1,000 feet.

SOUTHWEST WILDCATS

(Continued from Page 61)

western part of the county, Larsen-Walsh are seeking to develop a commercial well at 1,105 feet in No. 2 Oppenheimer.

Laredo District

In the Laredo district late last week J. G. Mackay was making a drill stem test of a wildcat well in Duval County with a sand at 1,771-76 feet. The well is a little east of the Simms Oil Co.

gas well, 5 miles north of the Cole Field drilled in a few years ago but not developed as a pool because there was no demand for the gas.

Nueces County

Gallagher, in Nueces County, 8 miles southwest of Corpus Christi, has been attracting considerable attention. At 2,305 feet last week it was thought to have but little farther to go before it encountered the sand that is producing in the Saxet Field north of it and with a chance that it was running high enough to get production.

Duval County

National Oil Co.'s No. 2 Ball, Block 5, of subdivision of Ball ranch, 300 feet to north and west lines of block, is moving on.

Starr County

The Texas Company's No. 1 H. A. Russell, Porcion 69, Block 173-A, is location 150 feet to south and east lines of most northerly southeast corner of Block 173-A.

Webb County

William R. Jewell's No. 1 J. M. Gutierrez, Survey 857, Block 8, located 150 feet to south and west lines, is standing at 80 feet. Callaghan Land & Pastorial Co.'s No. 2 Callaghan, Survey 440, located 2,210 feet to south line and 2,090 feet to east line, is drilling at 1,000 feet. Louis Hausman and others' No. 1 Callaghan, Survey 440, located 166 feet to south line and 1,482 feet to east line, is drilling at 450 feet. Baku Oil Co.'s No. 1 A. M. Bruni, Survey 735, Block 7, located 310 feet to north line and 150 feet to east line, is location.

Zapata County

R. V. Hill's No. 2 Ramirez, Survey 627, located 600 feet to northeast lines and 425 feet to northwest lines, is coring at 998 feet.

Bastrop County

Gypsy Producing Co.'s No. 1 Lottman estate, east of Bastrop, is shut down at 2,146 feet. A. A. Loomis is making location for test in the John W. Bunton Survey. Col. Billy Mayfield's No. 1 McColl, Stephen F. Austin Survey, 450 feet south of river and 750 feet to east line of farm, at 592 feet, is showing some oil and gas and is trying to set casing delayed by boulder at 272 feet. John Storey's No. 1 Ed Pendergrass, J. B. Blalock Survey, location in center of tract, is building derrick. Sun Oil Co.'s No. 1 Keicke, Solomon Duty Survey, 4,160 feet to east line and 150 feet to north line, is drilling at 700 feet.

Bexar County

Allen Burnam's No. 1 Ward, A. A. Gardiner Survey, 1,200 feet to east line and 325 feet to south line, is sidetracking at 600 feet. Humble Oil & Refining Co.'s No. 1 D. and A. Oppenheimer, 450 feet east of Pleasanton Road and 750 feet to south line of tract in shallow Alta Vista Field, is ready to spud in. Houston Oil Co.'s No. 1 C. N. Georgiadis, Domingo Losoya grant, 1,000 feet north of Carmen cemetery, is drilling at 2,280 feet in Austin chalk. Marland Oil Co.-Sun Oil Co.'s No. 1 J. B. Stewart, Manuel Monjarias Survey, 200 feet northeast and 200 feet southeast of the east corner of E. B. Simmons farm, is drilling at 2,197 feet in chalk.

Blanco County

C. W. Bates' No. 1 Herman Massey, Henry Manton Survey, 920 feet to north line and 660 feet to east line, is shut down at 214 feet. Robert A. Rodson's No. 1 Glasscock, Survey 50, located 150 feet to CEL, is drilling at 723 feet.

Caldwell County

Fred Adams and Lyles' No. 1 Oran W. Cliett, S. B. Morrison Survey, 4,800 feet to southeast lines and northeast lines, has derrick going up. Fred Adams is making location in Gideon Pace Survey for test. Bartlett Brothers' No. 1 C. N. Martindale, William G. Steffey Survey, 490 feet to northeast lines and 972 feet to northwest lines, has derrick up. Cranfill & Reynolds is making location one-half mile northwest of Lytton Springs. John V. Edwards' No. 1 W. C. Caldwell, Cornelius Crenshaw Survey, 300 feet to east line and 600 feet to south line, is moving in machinery. Louis P. Schawe has spudded in test in the Thomas Maxwell Survey and is drilling at 790 feet in top of the chalk.

DeWitt County

Alexander & Smith's No. 1 G. Dolgner, P. Dowlearn Survey, 1,200 feet to northwest lines and 150 feet to southwest lines, is drilling at 3,000 feet. Empire Southern Oil Co.'s No. 2 Smith, Survey 3, is shut down at 3,150 feet. Pilgrim Oil Co. is making location for test in the William G. Hill Survey, 6 miles west of Yorktown.

Comal County

George Kruger's No. 1 Ucker, A. Gaytean Survey No. 198, located in southeast corner, is drilling at 100 feet.

Colorado County

National Oil Co.'s No. 1 H. T. Brandt, Freeman Pettus League, is location 150 feet to south line of tract and 1,000 feet west of highway.

Dimmitt County

G. W. Morgan's No. 3 City National Bank, L.I.M. Canal Land Co. Survey, Section 25, is location 600 feet east of No. 1.

Edwards County

McMan Oil & Gas Co.'s No. 1-B Walter Schreiner, H.E.&W.T.R.R. Survey, Section 50, Block F, 330 feet to south and east lines, is shut down at 2,130 feet. Magnolia Petroleum Co.'s No. 2 Whitehead, G.C.&S.F.R.R. Survey, Section 88, is drilling at 2,060 feet. Segale Oil Co.'s No. 1 Neal, G.C.&S.F.R.R. Survey No. 2, located 1,000 feet to north line and 740 feet to east line, is moving in rig.

Frio County

Fred Charlboix's No. 1 Escenbury, Edward Gallagher Survey No. 789, is location 500 varas to north line and 1,200 varas to west line. Pilgrim Oil Co.'s No. 2 Blackaller, James Gouley Survey, is drilling at 3,147 feet.

Fayette County

Marshall & Moore Oil & Gas Co.'s No. 1 Cole is moving in heavier power at 1,450 feet. National Oil Co.'s No. 1 Melcher, S. M. Williams League, has been delayed spudding in by heavy rains. R. E. Phalon's No. 1 Cervenka, Fayette county school lands, Blocks 97 and 102, is setting casing at 346 feet to shut off shallow gas, total depth 1,808 feet.

Goliad County

C. W. Simpson's No. 1 Ideus, W. H. Pendleton Survey, 156 feet to north line and 540 feet to west line, is shut down at 2,323 feet.

Gonzales County

Dunning & Pierce's No. 1 Mrs. M. Keepers, R. Ward Survey, is shut down at 203 feet. W. D. Flynn's No. 1 Wilhausen, S. Bateman Survey, east central part of the lease, is drilling at 4,800 feet. W. G. Malone's No. 1 Staton, J. M. Salinas Survey, 375 feet to southwest lines and 1,275 feet to northwest lines, is shut down at 400 feet, corrected depth. L. P. Unkel's No. 1 Lumm & Bouldin, R. Ward Survey, Block 10, located 570 feet to CNL, is shut down at 380 feet, corrected depth.

Guadalupe County

Atlantic Production Co.'s No. 1 Will H. Fleming, Robert Smith Survey, 150 feet to north corner of W. W. Pyor land, is drilling at 1,676 feet in chalk topped at 1,672 feet. J. J. Christie's No. 1 Taylor Thomas, Gustavus Chotwell Survey, 1,100 feet to southwest lines and 1,130 feet to southeast lines, is drilling at 923 feet. T. H. Poole's No. 1 C. Woehler, John King Survey, 310 feet to north line and 210 feet to east line, is rigging up. Towns & Porter's No. 1 T. P. McKinney, J. Hinds Survey, 300 feet to south line and 3,247 feet west of river, is drilling at 2,700 feet.

Hays County

Estess-Moore & King's No. 1 Sledge, Hunton & Jones Survey, 285 feet to northwest lines, is drilling at 804 feet. J. E. Rodgers' No. 1 E. Hohenburg, 2½ miles east of San Marcos, is shut down at 2,189 feet.

Jim Wells County

Cushing Oil & Gas Co.'s No. 2 M. Perez, La Tinaja de Lara grant, 4,319 feet to west line and 455 feet to north line, is drilling at 1,700 feet.

Jackson County

J. B. Douglas' No. 1 C. O. Lowrance, John McHenry Survey, 720 varas to northwest lines and 3,700 varas to south-

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west lines, is drilling at 2,210 feet. The Texas Company's No. 1 W. C. Moore, I. &G.N. Survey No. 208, located 5,108 feet to south line and 150 feet to west line, is drilling at 2,100 feet in shale. Wright Brothers' No. 2 Classen, 1,500 feet north, 10 degrees west of No. 1, is drilling at 1,615 feet in gumbo; No. 7 Wright, T. Rodriguez Survey, 900 feet due east of No. 3, is drilling at 1,600 feet.

Karnes County

Reynosa Oil Corp.'s No. 3 Butler is making location in Reynolds Subdivision of P. B. Butler's 5,600-acre tract.

Kinney County

Mardon Oil Co.'s No. 1 Jim Clamp, Survey 346, Section 1,492, is drilling in Buda lime at 1,900 feet, topped at 1,878 feet.

Maverick County

Ryan Consolidated Petroleum Co.'s No. 1 Indio, Survey 14, center, is sidetracking at 4,600 feet; No. 2 Indio is having location made. Rycade Oil Corp.'s No. 3 Sullivan, Section 71, Block 7, I.&G.N. Survey, is drilling at 2,800 feet in lime; No. 2 Chittim, Section 158, Block 7, I. &G.N. Survey, is shut down at 7,300 feet for repairs.

Medina County

California-Medina's No. 1 Rothe, Survey 1,012, at 3,278 feet has milled out bailer and are on bottom and change to be made to rotary rig. Carl G. Cromwell and others' No. 1 Holt, Section 135, Block 28, located 210 feet to north line and 155 feet to east line, is shut down at 350 feet. Holt & Cromwell's No. 1 Henry Batot, 4 miles southwest of Hondo, is shut down at 400 feet. W. R. Painter's No. 1 Muennink, H. Castro Survey No. 367, is drilling at 640 feet and showing a little gas. W. T. Richardson's No. 1 Tom Bendele, Survey 593, located 150 feet to south line and 1,000 feet to west line, has resumed drilling at 937 feet to drill deeper. Cecil Switzer's No. 1 Zerr, Survey 459, reported in error that casing was set, for 6⅝-inch could not be got in hole and they are now waiting on string of 5⅜-inch to set at about 3,460 feet, total depth 3,487 feet.

Nueces County

Alamo Drilling & Leasing Co.'s No. 1 Gallagher, Survey 158, located 1,215 feet to north line and 650 feet to east line, is drilling at 2,305 feet with brown sand at 2,245 feet that tested dry. Nueces River Basin Development Co.'s No. 1 F. C. Allen, G. Farrier Survey, 1,596 feet to south line and 474 feet to west line, at 2,475 feet is coring in sand beneath tough gumbo.

Refugio County

Dunlap & Wilkinson's No. 1 Rooke, 1 mile north of Arkansas River, 700 feet west of railroad and 10 miles south of the gas field, is standing at 2,750 feet. J. M. Davis and Tom Horn's No. 1 Howard, Section 8, located 600 feet to north line and 2,640 feet to east line, is ready to spud in.

San Patricio County

C. I. Albertson's No. 1 Boscamp, W. R. Hazen Survey, Block 10, 200 feet to CNL, is shut down at 1,420 feet. R. D. Kelly's No. 1 Smith spudded in and shut down. George Pickett's No. 1 Whitworth, NW NW, Section 60, is shut down at 3,250 feet; No. 1 Garrett is shut down at 3,030 feet. F. P. Zoch's No. 1 F. C. Andrews, Block 7 of Welder & Odem Subdivision, 200 feet to north and west lines, is drilling at 2,287 feet.

Uvalde County

Pure Oil Co.'s No. 1 J. D. Smythe, Survey 687, located 740 feet north and 146 feet east of southeast corner of Survey 20, is at 4,278 feet waiting on 5⅜-inch casing.

Victoria County

Houston Oil Co.'s No. 1 McFaddin, Survey 14, located 600 feet to northwest lines and 1,600 feet to southwest lines, has set surface casing.

Val Verde County

East Del Rio Oil Co.'s No. 1 Russell, Section 183, is shut down at 3,325 feet. Independent Operators' No. 1 Whitehead, SE SE, Section 30, Block 4, is cleaning out at 3,968 feet. O. O. Owens and others' No. 1 Mills, Section 128, I.&G.N.R. R. Survey, is shut down at 4,210 feet. W. V. Traves' No. 1 Wilson, G.C.&S.F. R.R. Survey, Block E, is shut down at 1,125 feet. Valvert Oil Corp.'s No. 1-A Bassett, C NE of Section 47, Block Y, 200 feet east of No. 1, is drilling at 860 feet.

CALIFORNIA FIELDS

(Continued from Page 64)

ture. The Barnsdall, McKeon Drilling Co., Union Oil Co., Shell and others have all acquired substantial holdings of favorably located acreage. I consider these recent developments in the Midway-Sunset Field of extreme importance as they may lead to a general drilling campaign which might result in the addition of substantial production unless drilling operations are subsequently curtailed. Every indication points to the existence of a deep horizon of considerable importance as the new deep zone has been encountered in several different wells over an extensive area at approximately the same depth, 2,250 feet. The Texas Company charged off 29 wells in the Midway-Sunset Field during the past week, most of these abandonments being depleted producers.

LA.-ARK. WILDCATS

(Continued from Page 59)

1 Carroll Land Co., in Section 21-19-11, tested salt water at 2,490 feet and is drilling chalk at 2,678 feet. Woodley Petroleum Co.'s Morehouse Parish wildcat, No. 1 Bonita Lumber Co., in Section 3-22-9, found the top of the Nacatoch and tested salt water at 2,798 feet and is drilling packed sand at 3,110.

Madison, Tensas and Franklin Parish, where there has been considerable geophysical work preceded and accompanied by more or less drilling may be the scene this fall of an extensive seismograph survey, Standard Oil Co. of Louisiana having a shooting option on approximately 50,000 acres in one block in those three parishes. The bulk of the block is in Townships 13, 14 and 15, Ranges 9, 10 and 11.

Another Test Planned

Southwest of Lisbon in Union County, Arkansas, Reid Clark and others have assembled a block and made location in Section 30-17-17, for a 3,500-foot test. That part of the county has been thoroughly surveyed by first one and then another variety of geophysical instrument and, years ago, was almost as thoroughly drilled. It was in western and southwestern Union that the drilling that led to the El Dorado discovery well was done during 1918-21. Two recent magnetometer "highs" have been located on the Clark block and several of the larger companies have taken protection around the location and aided the proposed wildcat with dry hole money.

Pure Oil Co.'s second Champagnolle deep test and its first wildcat in that area, is reported to have run into a formation unexpected in that vicinity resembling the rock cored by The Texas Company in its first Ashley County wildcat. The company's [illegible] Gaddy in Section 13-17-14, 2 miles [illegible] and 1½ miles east of the nearest production, is reported coring what is claimed to be a sandy granite from 3,636-37 feet, a formation not encountered in their No. 1-B Gregory in Section 10-17-14, which went 3,888 feet and was abandoned as a junked hole. It was dry at 3,276 feet, about an average for Champagnolle deep sand wells and tested 4 joints of oil and 36 of mud at 3,381 feet, but thereafter tested only salt water, at 3,390-3,402 feet, at 3,598, at 3,732 and at 3,882-88 feet, this last 6 feet of sand showing oil on drill stem test but salt water when bailed. The Texas Company's No. 1 Gay in Section 32-16-4, Ashley County, several miles east of Champagnolle, cored a red granite at 3,187 feet.

NORTH LOUISIANA

Bossier Parish

Big Ben Oil Co. has rig up for No. 1 Stewart, 985 feet south and 485 feet east of the center of Section 15-18-12. Morgan Oil Co.'s No. 1 Smith, Section 26-19-11, is drilling shale at 1,500 feet. Triangle Drilling Co. and others' No. 1 Bulkley in Section 9-20-13, is drilling at 3,000 feet.

Caddo Parish

Gulf Refining Co.'s No. 1 Attaway, Section 1-18-15, is drilling hard shale at 3,606 feet. Haynes Brothers made location last week for No. 4 Louisiana Livestock Co., 200 feet north and west SE cor. Section 8-19-16, and are drilling at 1,400 feet with 10-inch cemented at 100 feet. D. M. Lide also has location in this part of Caddo, southwest of Mooringsport, for No. 1 McCrary, 1,320 feet north and east SW cor. Section 23-19-16, and has his rig up.

Catahoula Parish

The Texas Company is drilling on a rock at 2,270 feet in No. 1 Tensas, Section 4-10-6.

Claiborne Parish

El Dorado Chief Oil Co.'s No. 1 Baker, Section 26-20-7, is drilling at 600 feet.

DeSoto Parish

R. O. Roy has rig up for No. 1 Sample in Section 1-13-14. Warren & Carruthers' No. 1 Ramsey in Section 33-13-16, is drilling at 1,440 feet.

East Carroll Parish

Palmer Corp. tested salt water at 2,490 feet on No. 1 Caroll Land Co. in Section 21-19-11, and is drilling chalk rock at 2,672 feet. No. 1 Hamley, in Section 27-20-11, has been fishing for several joints of drill stem since September 20. Total depth of the hole is 2,923 feet.

Franklin Parish

Davis and others cemented 6-inch at 674 feet on No. 1 Moore, Section 12-11-6.

Madison Parish

Ruston Drilling Co.'s No. 1 Sondheimer has 15½-inch surface string cemented at 165 feet. The wildcat is in Section 24-18-11.

Monroe District

Morehouse Parish—Gulf Refining Co.'s No. 1 School, Section 16-18-6, is drilling red shale at 2,543 feet. Schaffer Oil & Refining Co.'s No. 1 Louisville Cooperage Co., Section 11-22-8, is drilling chalk at 2,885 feet. Woodley Petroleum Co. found the top of the Nacatoch at 2,798 feet, ran testing tool and got salt water and is drilling a hard packed sand at 2,110 feet on No. 1 Bonita, Section 3-22-9.

Ouachita Parish—Ouachita Natural Gas Co. cemented 8-inch at 1,008 feet on No. 2-B D'Arbonne, Section 25-19-2e.

Union Parish—Carter & Wingfield are drilling No. 2-A Clark, Section 7-23-1e, at 1,500 feet; No. 3 Security Trust, in Section 23-23-1e, is drilling at 840 feet.

Red River Parish

Rock Petroleum Co. set 6-inch to test 9 feet of sand in No. 1 Pierson, Section 12-14-11, total depth 1,761 feet.

Sabine Parish

W. G. Doerne's No. 1 Pickering, Section 17-4-11, is drilling lime at 4,050 feet. R. L. Clay has derrick up for No. 2 Bowman-Hicks in Section 14-7-14, the first of a new campaign undertaken by the same interests that have heretofore been operating as Zwolle Oil & Gas Co., and L. M. Emlet. Plymouth Oil Co.'s No. 2-A Logan, Section 23-10-12, is running core barrel at 4,939 feet.

Tangipahoa Parish

Kentwood Petroleum Co.'s No. 1 Amos Kent Realty Co., drill stem and rock bit which have been hung up at 1,368 feet since September 6, have been released and core will be taken as soon as hole can be cleaned out to 1,383 feet, at which latter depth a good showing of oil was encountered after 83 feet of lime rock had been penetrated; 6⅝-inch casing is on the lease for making the test if core justifies.

The second wildcat drilling in this parish, some 16 miles due south, just spudded in is Amite Drilling Co.'s Kemp-Weinberger No. 2.

Tensas Parish

Enochs and others' No. 1 Curry, Section 39-11-12, is in shale at 3,100 feet.

EAST TEXAS

Shelby County

Chapparall Oil Co. has begun drilling No. 2 Holt in the Matthew Moore Survey and with 12½-inch cemented at 100 feet is drilling at 600 feet. Gulf Refining Co.'s No. 1 Pickering in the P. W. Harvey Survey, is on a rock at 2,510 feet.

ARKANSAS

Ashley County

Atlantic Oil Producing Co. is coring No. 1 Moffatt, Section 28-16-8, at 2,790 feet. Marcum and others' No. 1 DeYampert, Section 5-19-4, is shut down at 1,400 feet for boiler repairs.

Calhoun County

Amerada Petroleum Corp. topped the Nacatoch at 2,453 feet on No. 1 Matlock, Section 10-12-13, and is on a rock at 2,600 feet.

Chicot County

Sam Hunter's No. 1 Sawyer in Section 19-18-2w, is coring at 1,580 feet. The Texas Company's No. 1 Hammond, Section 23-17-2w, is drilling an igneous rock at 2,485 feet.

Cleveland County

Arkansas Natural Gas Corp. found the Blossom sand at 3,310 feet in No. 1 Tate, Section 4-9-11, and is drilling gummy shale at 3,361 feet.

Faulkner County

Gold Creek Oil & Gas Co. is drilling stiff, black gumbo at 3,635 feet on No. 1 Stermer, Section 17-4-13.

Logan County

Arkansas Natural Gas Corp.'s No. 1 Parks, Section 26-8-24, is underreaming 8-inch set at 2,397 feet, total depth 2,428 feet.

Ouachita Parish

McDonald Brothers are drilling No. 1 Wilson, Section 25-15-18, at 2,110 feet.

Union County

Champagnolle — Marine Oil Co. cemented 6⅝-inch casing at 3,023 feet on No. 1 Sample, Section 7-17-13, total depth 3,027 feet. Pure Oil Co.'s No. 1 Gaddy, Section 13-17-14, is coring at 3,553 feet.

El Dorado—Tharpe Drilling Co.'s No. 1 List, Section 25-17-15, is shut down for orders at 2,858 feet without a show ing having been made.

LOUISIANA-ARKANSAS

(Continued from Page 59)

rig up for No. 1 Central Bank, Section 1-19-4, and is drilling rock at 1,702 feet on No. 2 Millsaps, Section 36-20-4. Natural Gas & Producing Co. cemented 6-inch at 2,153 feet on No. 1 McEnery, Section 21-19-4.

Union Parish—Feazel & Smith's No. 1 Steele, Section 16-20-4, is on a rock at 1,700 feet.

Richland Parish

Community Oil & Gas Co.'s No. 1 Boughton, Section 33-16-6, is drilling at 1,550 feet. Sam Hunter is drilling 6-inch plug from No. 3-B McCoy, Section 21-16-6, at 2,331 feet. Magnolia Petroleum Co.'s No. 1 Sartor, Section 16-16-6, is in gumbo at 2,040 feet.

Webster Parish

Cotton Valley—Humble Oil & Refining Co. is down 5,102 feet with No. 2-A Bodeaw, Section 14-21-10, drilling shale. Magnolia Petroleum Co.'s No. 5 Cox, Section 15-21-10, cemented the bottom to cut off salt water, total depth 4,800 feet. Superior Oil Co.'s No. 1 McCook & Hibbler, Section 21-21-10, has set 15½-inch surface casing at 311 feet and is drilling at 800 feet.

Sarepta and Shongaloo—Virgil Helm has made location for No. 1 Elkins, 660 feet north and east SW cor. NE, Section 32-23-9, and for No. 1 Maxwell, 660 feet south and east NW cor. Section 7-22-9. Jones and others' No. 1 Elkins in Section 33-23-9, is drilling at 1,904 feet.

Magnolia Petroleum Co.'s No. 1 Lewis, Section 25-23-10, is in shale at 3,000 feet, a deep test for the Shongaloo gas district, and No. 2 Munn, Section 29-23-9, tested 3,500,000 feet of gas at 2,697 feet and is shut down for orders. No. 1 Oakes-Roseberry in the same section also is shut down for orders after testing 1,000,000 feet of gas at 2,749 feet. Northwest Louisiana Gas Co., while waiting for standard rig to pump No. 7 Pine Woods Lumber Co. in Section 33-23-11, has made location for No. 8, 660 feet south of the NW cor. SW, Section 34-23-11.

EAST TEXAS

Harrison County

McRitchie and others have derrick up

for No. 1 Baldwin in the E. M. Fuller Survey.

Panola County

Magnolia Petroleum Co.'s No. 1 Lula Fletcher in the B. C. Jordan Survey is on a rock at 1,796 feet.

ARKANSAS

Johnson County

Arkansas Natural Gas Corp. pulled 6⅝-inch casing set at 2,742 feet, had a small show of gas at 2,840 feet and is drilling broken sand at 2,990 feet in No. 1 Bynum, Section 13-10-24; No. 1 Houston, Section 15-10-24, is in hard lime at 1,535 feet; No. 1 Hudson, Section 14-10-24, also is drilling hard lime at 2,080 feet.

Nevada County

Humble Oil & Refining Co. set 6⅝-inch casing to test 7 feet of sand in No. 5-A Groves, Section 1-14-21, total depth 1,117 feet.

Union County

Champagnolle—O. W. Estes' No. 5 Rowland, Section 14-17-14, is coring at 3,275 feet and No. 6 is drilling at 2,350 feet. Lion Oil Refining Co.'s No. 4 Nash in Section 6-17-13, set 138 feet of 10-inch surface casing and is drilling at 619 feet. Magnolia Petroleum Co. cemented 6⅝-inch at 2,990 feet on No. 2 Carroll, Section 1-17-14, total depth 3,007 feet. No. 6 Carroll in the same section got a small show of oil at 2,918 feet and is coring at 2,976 feet; No. 6 Dumas, Section 11-17-14, has rig up.

C. E. Murdock's No. 1 Union Sawmill, Section 6-17-13, is bailing to test 9 feet of sand, total depth 2,994 feet. Ohio Oil Co.'s No. 4 Crain, Section 1-17-14, cemented 6⅝-inch casing at 2,989 feet; No. 8 is drilling plug, total depth 2,986 feet; No. 1 Nash, Section 6-17-13, cemented 6⅝-inch at 3,035 feet, drilled plug and has 39 joints of oil and 2 of mud in the hole, total depth 3,044 feet; No. 1 Townsend, Section 10-17-14, is coring at 3,262 feet and No. 1 Ward, Section 14-17-14, is drilling at 1,050 feet with 10-inch surface casing cemented at 191 feet.

Oilwell Corp.'s No. 1-A Kelly, Section 9-17-14, set 165 feet of 12½-inch and is drilling at 285 feet. Rovenger Oil Corp.'s No. 4-A Perdue, Section 10-17-14, is waiting on standard rig with 1,200 feet of fluid in the hole, total depth 3,252 feet.

CANADIAN FIELDS

(Continued from Page 54)

reported pumping about 25 bbls. of light crude per day from the Blairmore-Dakota at 3,000 feet.

Royalite Oil Co.'s No. 9, LSD 6, Section 13-20-3w5, is reported a small commercial producer at 5,423 feet, following a production test; and will probably be finished at this depth. The exact production is uncertain; the well has been making around 40 bbls. of crude naphtha, and may make 50 bbls. Royalite's No. 15, LSD 1, Section 12-20-3w5, is pumping around 50 bbls. a day of light crude from the shallow horizon at 2,398 feet, and will be pumped from this horizon as long as it shows a fair production; later it will likely be carried to the deep lime.

No Sulphur Water Found

Reports recently circulated that Royalite's No. 9 had encountered sulphur water have been emphatically denied by J. H. McLeod, western production manager for Imperial Oil, Ltd., who is in charge of the operations of the Royalite and other Imperial subsidiaries.

Royalite Oil Co.'s No. 12, LSD 3, Section 13-20-3w5, is at 2,481 feet and drilling deeper after getting a small show of light crude in the Dakotas. This test is a little northwest of the Illinois-Alberta wells and west of Royalite's No. 7, in the shallow oil area; and may get a commercial production of light crude in a deeper sand in the Blairmore.

Dalhousie Oil Co.'s No. 6, LSD 10, Section 13-20-3w5, is drilling at 5,533 feet, well into the deep lime, and looks like a commercial producer, though no estimates have been given out. Most of the wet gas is coming from 120 feet in the lime, with smaller amounts from lower levels. The well is in good shape to drill deep into the lime, and advantage is being taken of this condition to make a thorough test of the deep formation. As soon as Dalhousie's No. 6 is finished, the diamond drill outfit will be transferred to Royalite's No. 14, LSD 4, Sectiuon 7-20-2w5, which is standing cemented in the top of the lime at 3,220 feet.

Home Oil Co.'s No. 1, LSD 10, Section 20-19-2w5, in the south end of the Turner Valley, is at 4,880 feet and drilling. This test, which got light crude production in the Home sand of the Fernie shales, is now approximately 20 feet above the Dalhousie sand which should be reached in another week. Home's No. 3, LSD 14, same section, is drilling at 3,280 feet and carrying 10-inch casing.

In the north end of the Turner Valley, Foothills Oil & Gas Co.'s No. 1, SW Section 26-20-3w5, is drilling close to 5,600 feet, with a wet gas production from a horizon 120 feet in the deep lime. Production is reported increasing gradually as the test is deepened. This is the first wet gas production secured in the deep lime in the north end of the field and the first test there to enter that formation; it indicates that conditions in at least part of the north end correspond to those in the central section, though somewhat deeper drilling is involved. Foothills Oil & Gas Co., which is an Imperial subsidiary, has some 1,600 acres in the vicinity of No. 1. Foothills' No. 2, LSD 8, Section 1-20-3w5, which had a small production of light crude in the Dakota horizon at 2,842 feet, is being drilled deeper, and is at 2,943 feet.

Imperial Tests

Royalite's Oil Co.'s No. 20 has been located in the C Section 12-20-3w5, about 660 feet south of Royalite's No. 11, and is working on derrick. Other tests of the Imperial group are reported as follows:

Test, LSD, Section, Status—	Depth
Royalite's No. 13, 6, 13-20-3w5, drilling	3,396
Royalite's No. 14, 4, 7-20-2w4, cemented	3,220
Royalite's No. 16, 2, 12-20-3w5, changing to rotary	3,425
Royalite's No. 17, 13, 6-20-2w5, drilling	3,348
Royalite's No. 18, 15, 12-20-3w5, drilling	2,164
Royalite's No. 19, 5, 6-20-2w5, fishing	1,992
Royalite's No. 22, 13-20-3w5, drilling	1,715
N.W. Associated, 6, 20-19-2w5, cemented	200

Royalite's No. 22, which is being drilled to the Dakota sand to provide, if possible, underground storage for surplus gas from the Madison, has finished straightening a bad hole.

Baltac Oils, Ltd., has been incorporated under Dominion charter with office at Calgary. This company, like the recently incorporated Associated Oil Co., will, it is understood, operate under an arrangement with Imperial Oil, Ltd.

The derrick, boiler house and belt house at the Regent Oil Co. test in LSD 16, Section 1-20-3w5, were destroyed by fire recently. The gas flow ignited, but the gas fire was drowned out, and the fire fighting crews from the Royalite and Seneca wells prevented the fire from spreading to McLeod's No. 4 on another part of the same section. The Regent hole is reported intact; it was down 3,315 feet and within about 600 feet of the deep lime. A new derrick has been built and the test is reported rigged up practically ready to resume drilling.

Illinois-Alberta Oils' No. 2, LSD 14, Section 12-20-3w5, has entered the Fernie shales at 3,150 feet and is drilling in hard rock at 3,194 feet. New McDougall-Segur Oil Co.'s No. 2, same LSD, has resumed drilling after cementing off caving in a soft formation at 3,814 feet. No. 3, same LSD, is standing cemented at 3,280 feet.

Mayland Oil Co., LSD 10, Section 17-19-2w5, is drilling in the Kootenay formation at 3,150 feet. United Oils' No. 2, LSD 2, Section 24-20-3w5, is drilling at 3,520 feet, and carrying down 10-inch casing close behind the drill, which is working in the lower Dakotas.

Independent Tests

In the north end of the Turner Valley, Stockmen Oils' No. 2, LSD 7, Section 27-20-3w5, is making new hole at 2,535 feet, after running 10-inch casing to 2,500 feet. The outfit is running on gas from Stockmen's No. 1, which is maintaining its production, estimated around 2,000,000 feet a day. Seneca Oils, LSD 1, Section 34-20-3w5, is drilling at 4,760 feet and is close to the Stockmen sand, where oil or gas should be met.

Other independent tests in the Turner Valley are reported standing as follows:

Test, LSD, Section, Status—	Depth
Advance's No. 5, 16, 19-19-2w5, drilling	2,530
Big Chief Oil Co., 3-4, 5-20-2w5, shut down	4,370
British Dominion's No. 2, 6, 12-20-3w5, drilling	1,400
Cooper, Nanton, 2, 7-20-2w5, shut down	4,840
Dutch-America's No. 2, 13, 4-19-2w5, shut down	40
East Crest Oil Co., 5-6, 16-19-2w5, drilling	2,100
Freehold Oil Co., SW, 3-21-3w5, drilling	1,825
Freeman-Lundy Syndicate, 10, 1-20-3w5, rigged up	....
Great West O ils, SE, 7-20-2w5, fishing	5,370
Highland Oils, 5, 5-20-2w5, shut down	3,020
Model Oils, 8, 22-20-3w5, drilling	1,400
New Black Diamond, 1, 3-20-3w5, shut down	1,380
New Valley, 4, 6-21-2w5, shut down	2,080
Sentinel Oil Co., 8-20-2w5, waiting casing	4,650
Vulcan Oils' No. 2, 11, 13-20-3w5, waiting rig	4,855

On the Morley Reserve, Wabash Oils is reported drilling around 1,640 feet. Melbourne Oils has resumed drilling at 2,000 feet. Norcon Oils' No. 1 is reported to have spudded in. In the adjacent Moose Mountain district, Signal Hill Oil Co.'s No. 2, LSD 9, Section 34-23-5w5, which has been shut down for some months at 1,975 feet, is reported to have arranged to resume drilling this month.

In the north end of the Turner Valley, Filteau & Co. have purchased from W. D. Outman of New York 40 acres of perpetual rights in LSD 13, Section 3-21-3w5, a half mile north of the Freehold well, and not far from the Foothills Oil & Gas Co. acreage.

Bow River Reserve

In the Bow River forest reserve, Paramount Oils has a test rigged up and ready to start in LSD 2, Section 28-19-4w5, on the Ricket structure. Turner-Wright Co. of Vancouver, British Columbia, has a tentative location in Section 24-19-6w5, on the south branch of Sheep Creek; rig irons are already on the ground and a combination rotary-standard outfit will be used.

In the Wildcat Hills west of Cochrane, Frontier Oils, LSD 2, Section 9-27-5w5, is shut down at 190 feet owing to engine trouble.

In the Highwood district, south of the Turner Valley Field, Imperial-Highwood's No. 1, LSD 3, Section 36-18-3w5, is hauling from High River to location the diamond drill outfit recently brought from Peru; this outfit will be used to finish the test which at 3,624 feet had trouble with a crooked hole due to a fault.

In the Aldersyde district, south of Calgary, Ranchmen's Gas & Oil Co., LSD 16, Section 13-20-29w4, is reported at 2,835 feet and running casing.

In the Skiff Field, southern Alberta, Imperial-Devenish's No. 2, LSD 11, Section 11-5-14w4, is reported at 2,874 feet and drilling. At this depth, with the location somewhat higher on structure than Devenish's No. 1, the drill should be close to production; No. 1 got the top of the sand at 3,090 feet. At 2,850 feet the drill is reported to have entered the lime, and, according to O. G. Devenish, who is in charge of operations, was within about 50 feet of the Ellis, where production is looked for. The drill was working in a hard formation and making less than 10 feet a day. Cores are being taken regularly and as soon as these indicate the near approach of the pay the drilling solution will be bailed and casing run and cemented on top of the sand; after which cable tools will be used to drill in the well. The test may not finish definitely till the second or third week of October.

Beaver Dome

On the Beaver Dome, Madison Oils, LSD 10, Section 24-2-11w4, is being finished under contract by Clarke & Wolfe of Edmonton. The test is drilling around 310 feet and has encountered a coal seam which indicates a possibility of oil or gas around 550 feet. In the Chin district, Lethalta Oils, LSD 5, Section 33-8-18w4, is drilling below 1,300 feet. In the Warner district, Gas Production & Transportation, NE Section 18-4-21w4, is reported resuming around 4,100 feet after running casing.

On the Montana side, Monalta Oil Co. is reported to have spudded in a new test in Section 1-37-4w, on the Blarney Castle structure, 5 miles west of Sweetgrass and less than a mile south of the international boundary. The location is 1½ miles south of the Imperial-Red Coulee well east of Coutts, which some years ago got a small oil show but was abandoned owing to water troubles.

In the Irma-Wainwright Field, east central Alberta, Sasko-Wainwright Oil & Gas Co., LSD 1, Section 19-45-6w4, rotary test is reported to have got the top of the oil sand around 2,233 feet. Casing will be run and cemented and the test drilled in as soon as the cement sets. Wainwell Oils' No. 2, LSD 15, Section 36-44-7w4, is reported to have resumed drilling at 535 feet. No. 3, LSD 1, Section 36-33-7w4, will be a rotary test drilled under contract, to be completed by December 15. The Wainwell refinery is reported ready to run, and will handle production of Wainwell's No. 1, Edmonton Wainwright Oils' No. 1 and British Petroleums' No. 3-B. Fabyan Petroleums' No. 1, LSD 8, Section 24-45-8w4, is coring, and is reported close to the oil sand. The old Imperial "mystery" well, in Section 14-45-8w4, recently taken over by Fabyan Petroleums from the Grattan Oil Co., together with the Grattan acreage, will be known as Fabyan's No. 2, and will be put in shape for gas production. It is reported that Fabyan's No. 3 will be started this fall on the Grattan acreage.

British-Wainwright Oils, LSD 4, Section 31-45-6w4, cemented some time ago on top of the oil sand at 2,222 feet, will be drilled in this fall as soon as necessary equipment can be secured. Wainwright Dome Oils held a shareholders meeting recently at Fort Frances, Ontario, when it was decided to start a new test on its Wainwright acreage at a point some distance from No. 1 well.

Ribstone Structure

On the Ribstone structure, eastern Alberta, London-Ribstone Oil Co., LSD 14, Section 10-43-3w4, is drilling below 2,130 feet, and is reported to have encountered considerably more oil saturation with deeper drilling. The company will put down a series of shallow structure tests, and is planning to drill two more commercial tests as soon as equipment is available. It is reported that Anwood Oil Co. will drill a test on the Ribstone structure.

Wainwright Petroleum, Ltd., incorporated with head office at Edmonton, is preparing to operate in the Wainwright Field. The officers are: President, H. C. Lee; vice president, James Stephen; treasurer, A. B. Martin; directors, Fred Wilson, L. H. Lafferty, all of Edmonton. Mr. Lee will be managing director. The company is taking over the H. C. Lee acreage in LSD 6, Section 30-45-6w4, on a royalty basis. In consideration of 1,000 acres additional, together with rotary drilling equipment and camp, Mr. Lee is to receive 400,000 shares of stock. No. 1 test will be drilled in LSD 6, Section 39-45-6w4.

In the Canadian Western Natural Gas Co.'s test near Brooks, in southern Alberta a small gas flow was met at 1,238

feet, and a larger flow at 1,540 feet. The test is being drilled deeper.

Ontario

In Ontario, Union Natural Gas Co.'s No. 25 in the western end of the Dawn Field, Lambton County, is drilling around 1,000 feet. Union's No. 26, further east, is drilling at approximately the same depth. In Concession 1, Moore Township, Leo Wilson and associates are reported drilling in salt at 1,600 feet. This is a considerable distance north and west of the Dawn Field. On the Michigan side, the Salt Co.'s No. 2 near St. Clair is reported to have finished at the same depth as No. 1 with a production of 1,000,000 feet a day. No. 2 is 700 feet nearer the St. Clair River than No. 1, and the development is regarded by Canadian operators as indicating a possible extension of the field to the Canadian side, where extensive leasing has been done this year east and south of Courtright. It is reported that the Salt Co. will drill No. 3 test a little south of Nos. 1 and 2, and about midway between them.

In Kent County, Ajax Oil & Gas Co.'s No. 3 in Dover East Township, is reported drilling around 600 feet. This is to be a test of the Trenton limestone some distance east of the other producing wells. Ajax' No. 2 is reported pumping 25 bbls. a day with about 100,000 feet of gas from the Trenton limestone.

In Romney Township, southeast of Coatsworth, Southern Ontario Gas Co. has started a new test about 1,000 feet north of the big gasser drilled some time ago. Union Natural Gas Co. has moved an outfit to the Hughson farm, Lot 164, Talbot Road, near Port Alma, for its No. 293 test.

Further east in Kent County, Union Natural Gas Co. is reported to be planning some structure tests in the area between Mull and Ridgetown.

GULF COAST FIELDS

(Continued from Page 53)

at 2,247 feet. H. G. Nelms' No. 3 Blakely is drilling gumbo at 2,465 feet. Navarro Oil Co.'s No. 1-A Robinson is sidetracking at 3,667 feet. H. B. Gordon has a rig up to work over No. 3-C Blakely.

On the south side, Humphreys Corp.'s No. 4 West Schenck is drilling gumbo at 2,787 feet. Moody Corp.'s No. 1 Robinson is drilling sand at 2,985 feet. Gulf Production Co.'s No. 12 Luscher, east flank, is drilling at 4,137 feet, and No. 15-C Blakely at 2,246 feet. South Texas Production Co.'s No. 2 Gabe Lee came in the middle of the week flowing 500 bbls. daily at 3,692 feet, but flowed only a short time when it sanded up. It was deepened to 3,718 feet, where strainer was reset, but the hole was bailed dry and now is standing.

South Louisiana

Lockport—Calcasieu Parish

Vacuum Oil Co. and Gulf Refining Co.'s No. 3 Miller was bailing as the week closed to test sand at 4,414 feet. No. 3 Frieber & Wolf was setting screen at 4,846 feet and is to bail. No. 21 Miller tested salt water at 3,815 feet and is pulling screen to deepen. No. 7 Miller is cleaning out hole preparatory to drilling deeper from the sand at 4,439 feet, from which it formerly made a producer. No. 4-A Farquahar is drilling water sand at 4,030 feet. No. 6 Lock-Moore is drilling sandy shale at 4,009 feet. No showing of oil has been found in this formation. No. 1 Henshaw-Lemoin is in sand at 2,958 feet.

Vinton—Calcasieu Parish

Gulf Refining Co.'s No. 45 Star-Vincent is being abandoned as dry at 3,418 feet. Marrs McLean's No. 1 G.&N.G. tested salt water at 1,660 feet and is standing. Vinton Petroleum Co.'s No. 8 Rescue is drilling at 2,658 feet, and a rig is up for No. 2 Gordon.

Jennings—Acadia Parish

E. F. Simms' No. 1 Cockrell, deep sand discovery well on the west flank of the dome, is drilling deeper at 4,197 feet in sandy shale. This operator's No. 1 Syndicate-Clemont, 2,000 feet to the north, Saturday still was swabbing considerable fluid, but probably will be mudded up and abandoned temporarily. This well came in two weeks ago flowing oil, but salt water broke in. No. 2 Syndicate-Clemont, 100 feet east of the No. 1 Cockrell, is drilling shale and boulders at 1,400 feet. This operator also has a rig up for No. 1 Grace Von Schoeler, 180 feet west of the No. 1 Syndicate-Clemont. The No. 1 Jennings is drilling gumbo at 1,135 feet.

Gulf Refining Co.'s No. 2 Leckelt, also on the west side, but considerably to the southwest of the Simms acreage, is drilling at 3,325 feet.

On the east side, The Texas Company's No. 5-B Latrielle tested salt water at 1,987 feet, but is to be deepened. Yount Lee Oil Co.'s No. 4 Housierre-Latrielle is drilling gumbo at 1,500 feet.

Edgerly—Calcasieu Parish

Rex Petroleum Co.'s No. 1 Louisiana Prairie Narroni, a former small producer, is pulling liner to deepen. Rex Petroleum Co.'s No. 3 Hunter is being rigged up to pump at 3,949 feet. Wilson-Broach's No. 2 Wilson, another old well, has cemented liner at 3,448 feet.

Hackberry—Cameron Parish

Calcasieu Oil Co.'s No. 4 Dorion is drilling hard sand at 3,672 feet. No. 3 Valery is drilling sand at 3,489 feet. Louisiana Land & Exploration Co.'s No. 3-B Calcasieu Lake, east of the main Hackberry district, is drilling gumbo at 1,180 feet. Yount Lee Oil Co.'s No. 17 Kelso Bayou is drilling rock at 3,556 feet. The latter's No. 18 Kelso Bayou is in gumbo and lime at 3,054 feet. No. 8 School Land is a derrick.

Atchafalaya—St. Martin Parish

Rycade Oil Corp.'s No. 3 Atchafalaya fee is drilling below 2,232 feet. A derrick is up for No. 4 Atchafalaya fee and a location has been made for No. 5 Atchafalaya. This company also has rig up for No. 4 Bouillon and a derrick has been completed for No. 5.

Starks—Calcasieu Parish

Gulf Refining Co. now has three rigs running at Starks. Its No. 11 Lutcher-Moore is drilling below 1,250 feet and its No. 12 Lutcher Moore at 2,110 feet. No. 12 Industrial is drilling at 2,283 feet.

Miscellaneous Fields

Bennett Petroleum Co.'s No. 1 Smith at Barbers Hill, Chambers County, has cemented 6⅝-inch casing at 5,229 feet to test sand showing oil at that depth. Rycade Oil Corp. and Humble Oil & Refining Co.'s No. 3 Hudson at Markham, Matagorda County, is drilling sand, lime and boulders at 2,889 feet. Sinclair Oil & Gas Co.'s No. 4 Norton, Damon Mound, Brazoria County, cored sand at 3,556 feet. Gulf Production Co.'s No. 17 Moore, Orchard, Fort Bend County, is drilling sand and shale below 3,110 feet. No. 11 Moore, same field, is drilling below 3,820 feet. The Texas Company's No. 33 Koehler, Harris County, has set 4¾-inch liner at 3,515 feet. At Sweet Lake, Cameron Parish, Louisiana, Pure Oil Co.'s No. 6 Yount Lee Oil Co. is drilling sand and shale at 4,760 feet.

MISCELLANEOUS WILDCATS

Texas

Austin County—Gulf Production Co.'s No. 1 Jackson, San Felipe Dome, is drilling hard sand at 1,922 feet. Lyne and associates' No. 1 Hess, near Brenham, has been shut down at 1,813 feet. Others, except at Raccoon Bend, are standing.

Brazoria County—At Allen Dome, Roxana Petroleum Corp.'s No. 2-A Pool is drilling hard shale at 5,649 feet. This company's No. 5 Allen, same dome, is in hard sand rock at 2,285 feet. No. 3 Reece is standing as a rig. Moody Corp.'s No. 1 Jamison, 3 miles west of Angleton, is drilling sand rock at 4,286 feet.

Chambers County—Pure Oil Co.'s No. 1 Old River Lake, Lost Lake Dome, has picked up another sand showing oil at 4,946 feet and probably will test. No. 1 Lost Lake is sidetracking at 3,218 feet. No. 2 Lost River has been held up at 824 feet to recement surface casing which gave way.

Colorado County—Rich Oil Corp. has spudded in on No. 1 Brune, John Gillespie Survey, 3 miles northeast of Columbus. At present this is the only active rig in the county.

Fort Bend County—Gulf Production Co.'s No. 9 Trone, Long Point Dome, is drilling gumbo at 3,281 feet. No. 11 Wolf is in sand rock at 742 feet. West and associates' No. 1 Hartfield, near Needville, is standing as a location.

Galveston County—Republic Production Co. has made location for No. 1 Lobit, near Dickinson, on a block of acreage recently leased up by that company following the reported discovery of another salt dome. Long and associates' No. 1 Irwine & Bishop, 2 miles south of Dickinson, has been standing at 2,680 feet in gumbo and lime for three weeks.

Harris County—Baldwin and associates' (J. A. Shine and associates) No. 1 Kitzman, 2 miles north of Cypress, is drilling gumbo and lime at 2,446 feet. This test has been coring nearly all the way down. Cedar Bayou Oil Co.'s No. 1 Johnson, 8 miles north of Goose Creek, is drilling lime and shale at 3,396 feet. J. A. Hautier and associates have abandoned their No. 1 Grouse, east of Houston, as dry at 2,961 feet. Humble Oil & Refining Co.'s No. 1 Minnetex at Mykawa is drilling shale at 3,285 feet. This company's No. 4 Warren at Hockley has encountered a hard sand with a slight showing of oil at 4,595-98 feet.

Jackson County—The Texas Company's No. 1 Moore, D.&G.N. Survey, 16½ miles north of the Edna gas field, is drilling shale at 2,290 feet. Wright Brothers' No. 1 Lawrence, John McHenry Survey, 12 miles north of Edna, is in shale at 2,693 feet. The latter operators' No. 7-A Drushel is drilling gumbo at 1,754 feet. Their No. 2 Classen is in sandy shale at 2,685 feet.

Jefferson County—Gulf Production Co.'s No. 2 Burrell at Fannette is drilling shale at 2,071 feet. Others in the county are standing.

Liberty County—Humble Oil & Refining Co.'s No. 3 R. S. Sterling, Moss Bluff Dome, has started drilling and late in the week was in hard sand at 1,553 feet. Sun Oil Co.'s No. 1 Kyle, same dome, at latest report was in gumbo at 2,430 feet. The Texas Company's No. 1 Davis at Davis Hill has set 10-inch surface casing at 600 feet, but is drilling rock below 1,160 feet.

Matagorda County—Griffith and associates' No. 1 Culver has been held up after twisting off drill stem. The bottom of the hole is in lime at 3,180 feet.

Orange County—Veteran Oil Co.'s No. 1 Reed, 2 miles east of the Orange Field, has cemented surface casing and at last report was in sand at 696 feet.

Washington County—Sun Oil Co.'s No. 1 Grote, Somerville district, Washington County, was bailing late Saturday to test sand showing oil at 1,043-53 feet. If this makes a producer it will be the first in that part of the county. All acreage is controlled by the Sun Oil Co.

Louisiana

Acadia Parish—Gulf Refining Co.'s No. 1 Housierre-Latrielle on the Egan Dome prospect, Section 30-9s-2w, is drilling below 3,771 feet.

Ascension Parish—Burnside Oil Co. is rigging up for No. 1 Robert, fractional Section 13-10s-3e, in the vicinity of the town of Sorrento. Gulf Refining Co.'s No. 10 United Land Co., Sorrento Dome, is rigged up. Others in the parish are standing.

Cameron Parish—Roxana Petroleum Corp. failed to make a well in its No. 3 Watkins, Black Bayou district, and is drilling deeper at 1,190 feet. This company's No. 4 Watkins also has found a sand showing oil at 1,654 and is waiting on casing cement to set.

Iberia Parish—Louisiana Land & Exploration Co.'s No. 2 Averys Island, at Averys Island Dome, is drilling sand at 3,811 feet. Others in the parish are standing.

Iberville Parish—Roxana Petroleum Corp.'s No. 2 Wilbert, White Castle Dome, has started drilling deeper at 4,066 feet in sandy shale.

MAPPING CO. REMOVAL

The Kirk M. Nagle Mapping Co. of Tulsa is moving from the Ritz Building to the building formerly occupied by the Oklahoma Natural Gas Corp. on West Fourth Street.

KANSAS FIELDS

(Continued from Page 52)

had a good show of oil and gas in the Wilcox sand in No. 1 Rex, SE cor. SE Section 22-33-3w. The sand was found 4,479-82 feet, and the owners had a hard time shutting off water. Pipe was cemented above the sand, and when the plug was drilled out, it was found that the pipe failed to hold back the water. The owners will attempt to get a water shut-off before drilling deeper.

In McPherson County, the Mid-Kansas Oil & Gas Co.'s No. 1 Johnson, C NE SE Section 30-18-2w, topped the chat 2,865 feet and has 750,000 feet of gas in this formation bottomed at 2,920 feet. The casing is now being underreamed to drill deeper, and since the well was some 80 feet high, the fact that no oil was found is disappointing. The well will be drilled down to the Wilcox sand.

Butler County

Phillips Petroleum Co. made location for No. 4 Haupt, NW cor. NE NE, Section 8-23-4. La Robb Oil Co.'s No. 1 Jackson, NE cor. NW SW, Section 1-25-8, is spudding. Empire Oil & Refining Co.'s No. 1 Young, NW cor. SE NW, Section 27-26-7, is rigging up to deepen. Location has been made for No. 3-A Brandenberger, SE cor. SW NE, Section 22-27-5. The rig is under construction for No. 3 Sherrock, NE cor. SE SW, Section 27-27-5. Garden and others' rig is up for No. 2-B Sluss, CSL NE NW, Section 6-27-6. Phillips Petroleum Co. built the rig for No. 6 Seward, NW cor. Section 13-27-7.

Pure Oil Co.'s No. 6 Maxwell, NE cor. SW, Section 31-24-4, is dry and abandoned at 2,730 feet. John Rogers' No. 2 Nichols, CEL NW SW, Section 31-26-8, is dry and abandoned at 1,705 feet. Empire Oil & Refining Co.'s No. 5 Cranston, NE cor. NW SE, Section 22-27-5, made 192 bbls. from sand at 2,707-58 feet. No. 2 Sherrock, SW cor. NW SE, Section 27-27-5, was completed for 182 bbls. in sand at 2,724-34 feet. Rosenthal and others' No. 11 Schaffer, NW cor. SE SE, Section 4-27-6, is making 200 bbls. from sand at 3,145-58½ feet. Blue Stem Oil Co.'s No. 4 Doughty, CNL NW SE, Section 5-27-6, was completed for 350 bbls. in sand at 2,715-59 feet.

Cowley County

Barnsdall Oil Co. is erecting the rig for No. 1 Kemp, SE cor. SW SE, Section 7-34-3. Empire Oil & Refining Co. and others' rig is under construction for No. 1 Feaster, NW cor. NE, Section 36-32-5. Trees Oil Co. made location for No. 1 Kinnenmoth, C NW SW, Section 12-32-6, No. 2 Estes, CWL SW NW, Section 12-32-6, was completed for 1,500,000 feet of gas in sand at 2,493-2,518½ feet.

Elk County

Tory & Murfin's No. 1 Harris, SE cor. NW SW, Section 10-31-10, is making 75 bbls. from sand at 1,982-2,020 feet. Denton and others' No. 2 McKee, C NE NE, Section 16-31-10, has been completed for 200,000 feet of gas in sand at 1,130-50 feet.

Greenwood County

Skelly Oil Co.'s No. 1 Pixlee, NE cor. SE SW, Section 3-22-10, is spudding. Pryor & Lockhart made location for No. 2 Wenzler, SE cor. SW NW, Section 29-22-13. Skelly Oil Co.'s No. 7 Schwab, NW cor. SE NE, Section 30-22-13, is spudding. Haverhill Petroleum Co. moved a machine to the location for No. 20 Inthurn, NW cor. SE, Section 4-23-13. Brossius and others made location for No. 1 Hendrickson, SE cor. NE SW, Section 8-25-9.

Amerada Petroleum Corp.'s No. 3 Luthi, NE cor. NW SW, Section 29-22-13, was completed for 145 bbls. in sand at 1,667-1,703 feet. Ladow Gas Co.'s No. 1 Lawrence, SE cor. SW NE, Section 4-27-13, is dry and abandoned at 1,630 feet.

Marion County

Empire Oil & Refining Co. is building the rig for No. 1 Alder, NE cor. SE NW, Section 32-21-5. Derby Oil Co.'s No. 1 McCoy, NE cor. SW SE, Section 14-17-4, has been abandoned at 2,406 feet in chat. Watchorn Oil & Gas Co.'s No.

1 Miller, SE cor. SW NE, Section 23-22-4, is dry and abandoned at 2,600 feet in Siliceous lime.

Marshall County

Irwin Brothers' No. 1 Cooper, NE cor. NW, Section 10-3-7, is spudding.

McPherson County

McPherson Oil & Gas Development Co. made location for No. 1 Roseberg, C NE NW, Section 31-18-2w. Merriman, Reeves and others' No. 2 Anderson, SE cor. SW SW, Section 29-18-2w, is rigging up. Vickers Petroleum Co. has the rig on the ground for No. 1 Wedel, C SW, Section 12-20-2w.

Reno County

Empire Oil & Refining Co. and Marland Oil Co.'s No. 1 Williams, SE cor. NE, Section 5-26-4w, is dry and abandoned at 4,144 feet.

Russell County

Mid-West Exploration Co. made location for No. 16 Dortland, SE cor. NW SE, Section 5-14-15w. Keys Petroleum Co.'s No. 9 Baxter, NE cor. SE SE, Section 32-13-15w, has been completed for 150 bbls. in sand at 3,052-92 feet. Hartman & Skaer and others' No. 1 Taylor, C SW, Section 35-13-12w, has been abandoned at 3,375 feet.

Sedgwick County

Van Zandt & Mason built the rig for No. 1 Jones, C NW SW, Section 19-25-1w. La Robb Oil Co. has the rig up for No. 1 Smyser, SE cor. Section 36-25-1w.

Sumner County

Roxana Petroleum Corp. is building the rig for No. 14 Emerich, NW cor. SW SW SE, Section 14-32-2, Oxford Pool. No. 10 Riverbed, CEL W half SW, Section 25-31-2, Churchill Pool, is making 140 bbls. from sand at 1,860-83 feet. Washoma Oil Co.'s No. 3 Bussard, NE cor. SW, Section 36-31-2, is making 190 bbls. from sand at 1,931-66 feet. National Union Oil Co. and others' No. 1 Townsite, Lot 4, Block 18, Section 14-32-2, Oxford Pool, is a dry hole at 2,669 feet. Roxana Petroleum Corp.'s No. 3 Scroggins "R," SE cor. NW, Section 14-32-2, made 230 bbls. from sand at 2,040-80 feet. Hartman & Skaer's No. 1 Riley, CWL NW, Section 17-35-1, was completed for 1,500,000 feet of gas in sand at 2,270-73 feet.

OKLAHOMA FIELDS

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tion 7-13-15, is drilling deeper at 1,973 feet.

J. H. Rebold Oil Co.'s No. 4 Strip, CSL N half SE SW, Section 30-15-11, made 15 bbls. from Dutcher sand at 2,535-70 feet. Kirkland & Son's No. 1 Unallotted, SW cor. SE SW NW, Section 19-15-13, was completed for 10 bbls. in sand at 1,542-1,602 feet. J. L. Selby's No. 9 H. Connor, C NW NW, Section 6-14-15, made 20 bbls. from sand at 630-52 feet. A. McInturff's No. 1 Myers, CNL SW NE, Section 8-13-14, was completed for 6 bbls. in sand at 1,291-1,300 feet.

Osage County

R. L. Berlin moved a machine in for No. 10, NE cor. SE SW, Section 20-29-9. Lewis Production Co. and others made location for No. 1, SW cor. NW, Section 14-26-6. Carter Oil Co. is erecting the rig for No. 1, NE cor. SE, Section 33-26-6. L. G. Stanley and others moved a machine to the location for No. 1, SE cor. SW SW, Section 10-25-8. McCune Wurmser and Marland Production Co.'s No. 10, SE cor. NE NW, Section 15-24-8, is a machine rigging up. Corbin & Haver moved a machine out for No. 7, NW cor. SE SW, Section 16-23-11. L. G. Stanley and others' No. 1, NW cor. SE, Section 5-21-9, is a machine on the ground.

Phillips Petroleum Co.'s No. 11, NE cor. SW SE, Section 17-27-6, was completed for 40 bbls. in Burbank sand at 2,905-58 feet, total depth, 2,964 feet. Mid Co. Oil Corp.'s No. 4, NW cor. SW SW, Section 25-27-11, made 10 bbls. from Whiting sand at 1,015-50 feet. Marland Oil Co.'s No. 1, NE cor. SW, Section 18-26-6, is dry and abandoned at 2,915 feet. Lewis Production Co. and others' No. 2, NW cor. NE NE, Section 22-26-6, made a 200-bbl. well in Burbank sand from 2,940-82 feet. Minnehoma Oil Co.'s No. 2, CWL SE, Section 11-26-8, made 35 bbls. from sand at 2,235-41 feet. Indian Territory Illuminating Oil Co.'s No. 337, NE cor. SE SE, Section 34-25-11, was completed for 500,000 feet of gas in sand at 1,667-86 feet. Rex Pyramid Oil Co.'s No. 41, SW cor. NE, Section 34-22-10, is dry and abandoned at 2,046 feet.

Pawnee County

Thompson & Black moved a machine to the location for No. 1 Lennex, NW cor. SW SW, Section 14-20-9. Turner and others' No. 2 R. Est, SW cor. SE SE NE, Section 30-20-9, is dry and abandoned at 1,390 feet in Cleveland sand.

Payne County

Gardner Petroleum Co.'s No. 1, C NE SE, Section 12-19-1w, is dry and abandoned at 4,910 feet.

Pittsburg County

McAylor and others' No. 1 Reed, NW cor. SW NW, Section 7-6-14, is drilling at 100 feet.

Pontotoc County

W. R. Ramsey's No. 1 Miller, SE cor. NW SW, Section 17-5-8, completed at 2,376 feet, is setting 5-inch casing at 2,422 feet to deepen to Wilcox sand. No. 2 Whitney, SE cor. NW, Section 19-5-8, Allen Pool, is a rig on the ground. Westheimer & Daube's No. 1 Patterson, NW cor. Section 29-5-8, is rigging up to deepen from 1,025 feet to the Wilcox sand.

Pottawatomie County

Atlantic Oil Producing Co. and Phillips Petroleum Co. made location for No. 1 Bank, SW cor. NE NE, Section 11-9-4. T. B. Slick made location for No. 1 Nix, SE cor. NW NW, Section 12-8-3. Shaffer Oil & Refining Co.'s No. 2 Phillips, NW cor. SW, Section 19-7-4, St. Louis Pool, is rigging up to deepen from 3,924 feet to Wilcox sand. Magnolia Petroleum Co. is erecting the rig for No. 1 M. Guinn, SE cor. NE NE, Section 20-7-5, St. Louis Pool. Roxana Petroleum Corp. has the rig on the ground for No. 2 Smith, NW cor. SW NW, Section 21-7-5.

Seminole Petroleum Co. is building the rig for No. 1 Church land, NW cor. NE NW, Section 29-7-5, on a 1½-acre tract. The Texas Company has the cellar dug for No. 2 Zoeller, NE cor. SW SE, Section 30-7-5. No. 3 Zoeller, NW cor. SE SE, Section 30-7-5, is also a cellar. Gypsy Oil Co. is building the rig for No. 1 Blandin, NE cor. Section 31-7-5. Magnolia Petroleum Co.'s No. 1 Nicholas, NW cor. Section 31-7-5, is rigging up.

Interocean Oil Co.'s No. 6 McGee, SE cor. NW SE, Section 23-7-4, St. Louis Pool, swabbed 900 bbls. from Simpson sand at 4,215-33 feet. Shaffer Oil & Refining Co.'s No. 2 Cherry, NW cor. SE SE, Section 23-7-4, swabbed 820 bbls. from Simpson sand at 4,505-25 feet. Gypsy Oil Co. and others' No. 4 McGee, SW cor. NE, Section 23-7-4, is pumping 10 bbls. from Simpson sand at 4,145-4,226 feet. Gypsy Oil Co. and others' No. 5 McGee, NW cor. SE NE, Section 23-7-4, is pumping 80 bbls. from Simpson sand at 4,145-56 feet.

Phillips Petroleum Co.'s No. 1 Lydick, SE cor. NE, Section 24-7-4, swabbed 95 bbls. from Simpson sand at 4,175-99 feet. Gypsy Oil Co.'s No. 2 Collins, NE cor. SE, Section 25-7-4, flowed 1,000 bbls. from Simpson sand at 4,190-4,219 feet. Independent Oil & Gas Co.'s No. 6 Youts, SE cor. Section 19-7-5, produced 2,135 bbls. from Wilcox sand at 4,105-37 feet. Magnolia Petroleum Co.'s No. 3 Hembree, NW cor. SW SE, Section 19-7-5, made 3,500 bbls. from Wilcox sand at 4,171-73 feet.

Roxana Petroleum Corp.'s No. 1 Deister, NW cor. SE NE, Section 20-6-5, is dry and abandoned at 4,272 feet in Wilcox sand. Ogg Petroleum Co.'s No. 1 Butler, SE cor. SW SW, Section 29-5-5, drilled to 2,725 feet and plugged back to 2,664 feet where it is pumping 75 bbls.

Seminole County

Phillips Petroleum Co. made location for No. 1 Mill, NW cor. SW, Section 34-11-7. Gypsy Oil Co. has the cellar dug for No. 1 Andrews, NE cor. SW NW, Section 27-10-7. Carter Oil Co.'s No. 6 James, SE cor. NE SW, Section 6-9-6, Earlsboro Pool, is rigging up. Empire Oil & Refining Co. is building the rig for No. 1 Cluck, SW cor. NE, Section 11-8-5, Maud area. Sinclair Oil & Gas Co. made location for No. 1 L. Harjo, SW cor. SE, Section 11-8-5.

W. B. Pine made location for No. 7 Hoyecha, NW cor. SE SE, Section 26-8-6, Little River. Location was also made for No. 8 Hoyecha, NE cor. SE, Section 26-8-6. The rig is on the ground for No. 1 Walker, SW cor. SE, Section 32-8-7, East Little River area. Location was made for No. 2 Walker, NW cor. SW SE, Section 32-8-7. T. B. Slick made location for No. 1 Davis, SE cor. SW, Section 2 7-6, Little River Pool. Gypsy Oil Co.'s No. 5 Cotcha, SW cor. NW SW, Section 23-7-6, is a location. Location for No 6 Cotcha, SE cor. NW SW, Section 23-7-6, was also made. Tidal Oil Co. staked the location for No. 1 Harrison, SW cor. Section 2-7-7.

The Texas Company moved the rig out for No. 1 Fleet, SE cor. Section 15-5-7, west of the Allen Pool. Cal-Cul Oil Co.'s No. 1 Cynda, SW cor. NW SW, Section 24-5-7, recently completed as a gas well at 2,657 feet, is rigging up to deepen. T. B. Slick is building the rig for No. 1 Wyetha, NW cor. SW SW, Section 24-5-7. The Prairie Oil & Gas Co. made location for No. 1 Pool, NW cor. SW NE, Section 17-9-6, Seminole area.

Superior Oil Corp.'s No. 1 Ingram, SW cor. NW NW, Section 1-9-5, Earlsboro Pool, drilled to 4,525 feet in Wilcox sand, plugged back to 4,419 feet and made 10 bbls. The Texas Company's No. 1 Brooks, SW cor. NW, Section 25-8-6, North Little River, swabbed 827 bbls. from Wilcox sand at 4,143-51 feet. W. B. Pine's No. 4 Hoyecha, SW cor. NE SE, Section 26-8-6, was completed for 935 bbls. in Wilcox sand at 4,220-25 feet.

Gypsy Oil Co.'s No. 9 Hulhoke, SW cor. SE SE, Section 14-7-6, Little River Pool, made 1,100 bbls. from Wilcox sand at 4,358-68 feet. No. 10 Hulhoke, NE cor. SW SE, Section 14-7-6, flowed 2,185 bbls. from Wilcox sand at 4,268-78 feet. Magnolia Petroleum Co.'s No. 1-B Harjo, SE cor. NE NE, Section 14-7-6, was completed for 696 bbls. in Wilcox sand at 4,345-53 feet. No. 2-B Harjo, SW cor. NE NE, Section 14-7-6, made 564 bbls. from Wilcox sand at 4,110-12 feet. The Prairie Oil & Gas Co.'s No. 6 Sunny, SE cor. NW NW, Section 14-7-6, made 915 bbls. from Wilcox sand at 4,199-4,214 feet. Pure Oil Co.'s No. 6 Cotcha, NW cor. NE NE, Section 23-7-6, was completed for 280 bbls. in Wilcox sand at 4,690-94 feet. Roxana Petroleum Corp.'s No. 3 Hotulke, SE cor. NE NW, Section 23-7-6, made 120 bbls. on pump from Wilcox sand at 4,267-82 feet.

No. 4 Hotulke, NW cor. NE NW, Section 23-7-6, swabbed 110 bbls. from Wilcox sand at 4,210-17 feet. Wigton & Long's No. 1 Jefferson, NW cor. NE, Section 31-7-6, was completed for 40 bbls. in sand at 1,152-69 feet. Anderson & Prichard's No. 6 Culley, NW cor. NE SE, Section 18-5-8, Allen Pool, swabbed 800 bbls. from Cromwell sand at 2,545-2,607 feet. Burke Greis' No. 1 Lucy, NW cor. NE SE, Section 18-5-8, swabbed 860 bbls. from Cromwell sand at 2,522-90 feet. Sinclair Oil & Gas Co.'s No. 2 Nakotche, CEL NE SW, Section 18-5-8, had Cromwell sand at 2,604-2,706 feet and swabbed 675 bbls. No. 4 Nakotche, NW cor. NE SW, Section 18-5-8, was completed for 300 bbls. in Cromwell sand at 2,725-37 feet.

Stevens County

Brannon & Fisher's No. 2 Maxey, SE cor. SW SE, Section 19-1-8w, is drilling deeper at 2,053 feet. Beever Oil Co.'s No. 1 Funk, SW cor. NW NE NW, Section 30-1-8w, is cleaning out at 1,550 feet to deepen. Petroleum Producers Corp. has the rig up for No. 8 Bond, SE cor. NW NW SW, Section 7-2s-7w. Pace and others' No. 7 Bristowe "A," SW cor. NW NE NW, Section 18-2s-7w, is drilling at 650 feet.

Martin & Smythe's No. 1 Vestal, C NE SE, Section 20-2-5w, is dry and abandoned at 2,510 feet. Douthitt & Melton's No. 4 Nigh, SE cor. NW NW, Section 34-1s-8w, is making 15 bbls. from sand at 1,670-78 feet. Medlin and others' No. 3 Simpson, NE cor. SW SE, Section 34-1s-8w, made 10 bbls. from sand at 1,642-60 feet. Amerada Petroleum Corp.'s No. 3 Hanson, SW cor. Section 12-1s-4w, was completed for 103 bbls. in sands at 2,936-3,642 feet. Clark & Cowden's No. 1 Jackson, SE cor. SW SE, Section 21-1s-4w, is dry and abandoned at 3,535 feet. Petroleum Producers Corp.'s No. 7 Bond, NE cor. NW NW SW, Section 7-2s-7w, was completed for 35 bbls. in sands at 1,528-52 feet. George Pace and others' No. 3 Bristowe "B," SW cor. NW NW NW, Section 18-2s-7w, made a 10-bbl. well in sands at 1,480-83 feet and 1,503-11 feet.

Tulsa County

S. W. Anthony's No. 3 Whetstone, NW cor. NE SW, Section 3-16-12, is spudding. J. Tutin and others' No. 1 Gaskine, CSL SE SE, Section 5-19-10, was completed for 2,000,000 feet of gas in sand at 340-48 feet. Posey Short's No. 1-A Ishmael, NE cor. SE, Section 13-18-12, made 3 bbls. from sand at 748-69 feet.

Wagoner County

Sheridan Oil Co.'s No. 1 Lewis, SE cor. NW, Section 6-19-15, is spudding. Elk Drilling Co. moved a machine to the location for No. 1 Ridmore, SW cor. SE SW, Section 36-17-17. J. Ellis has a machine at the location for No. 1-A Lewis, SW cor. SE, Section 27-16-17.

W. H. Allen and others' No. 1-A Drew, NE cor. NW SW, Section 30-18-15, is dry and abandoned at 1,350 feet. Elk Drilling Co.'s No. 4 Childers, CWL SW NW, Section 22-18-17, was completed for 5,000,000 feet of gas in sand at 777-82 feet. H. H. Orr's No. 3 Grayson, SE cor. SW, Section 34-17-18, was completed for 4 bbls. in sand at 396-432 feet. Hale-Ford Oil Co.'s No. 4 Brown, NE cor. SE SE NW, Section 36-16-17, is a dry hole at 932 feet.

Seminole Production

The production of the Greater Seminole area by companies and leases on Thursday, October 4, is given below:

Little River Pool

Company, farm—	Location	Wells	Prod.
Amerada:			
Nitey	2- 7-6	3	1,225
Amerada-Wilcox:			
Fore	35- 8-6	2	325
Barnsdall:			
Cotcha	23- 7-6	2	2,365
Hotulke	22- 7-6	21	633
Walker	4- 7-6	1	550
Blackwell:			
Baker	11- 7-6	3	2,140
Nitey	35- 8-6	6	1,839
Talley	14- 7-6	3	1,370
Carter:			
Cotcha, M.	23- 7-6	1	60
Cudjo, L.	23- 7-6	1	20
Fish	36- 8-6	4	770
Harjo, C.	11- 7-6	1	6,575
Harjo, M.	13- 7-6	1	1,362
Jackson	11- 7-6	3	2,020
Larney	24- 7-6	1	1,715
Lena	10- 7-6	1	1,580
Moore	11- 7-6	1	910
Tewee	14- 7-6	5	5,179
Thomas	11- 7-6	2	540
Wilson	12- 7-6	1	950
Champlin:			
Tewee	14- 7-6	1	2,953
Continental:			
Cosar	36- 8-6	7	1,970
Cosar, M.	25- 8-6	1	430
Continental & Fisher:			
Milsey	11- 7-6	1	2,459
Empire:			
Coker	13- 7-6	..	440
Gypsy:			
Brown, C.	33- 8-6	2	945
Brown, M.	33- 8-6	1	1,155
Campbell	33- 7-6	2	65
Conard	22- 7-6	2	1,620
Cosar, M.	25- 8-6	2	....
Cosar, W.	36- 8-6	2	280
Cotcha	23- 7-6	4	2,212
Denmark	11- 7-6	4	3,807
Hulhoke	14- 7-6	10	7,962
Mungee	1- 7-6	1	22
Pottle	35- 8-6	4	814
Renton	11- 7-6	3	967
Independent:			
Davis, R.	13- 7-6	2	865
Tewee	14- 7-6	4	3,120
Harris	23- 7-6	8	3,597
Independent & White Eagle:			
Davis	2- 7-6	3	980
Williams	15- 7-6	..	1,395
I. T. I. O.:			
Campbell	1- 7-6	1	205
Dungan	35- 8-6	3	1,227
House, M. A.	1- 7-6	1	16
House, W. E.	1- 7-6	1	20
House "B"	2- 7-6	4	877
Hull	26- 8-6	3	689
Jackson	1- 7-6	3	796
McCulla	1- 7-6	3	581
Nitey	2- 7-6	6	290
Phoebe "A"	36- 8-6	3	275
Phoebe "B"	36- 8-6	4	178
Reed	1- 7-6	1	36
Soketheche	1- 7-6	3	939

(Continued on Next Page)

Magnolia:			
Cruse	2- 7-6	4	990
Denby	11- 7-6	2	1,160
Dixon	31- 8-7	1	2
Harjo, A.	14- 7-6	1	695
Harjo, B.	14- 7-6	2	1,296
Pottie	35- 8-6	3	672
Reed	22- 7-6	..	1,467
Mid-Continent:			
Brunner	11- 7-6	4	2,825
Fleck	23- 7-6	1	635
Smith	5- 7-7	1	1,610
Wadsworth	36- 8-6	7	180
W. B. Pine:			
Hoyecha	26- 8-6	5	2,212
Pine-Phillips:			
Pottie	35- 8-6	2	340
Prairie:			
Chilcoat	25- 8-6	3	880
Dungan	35- 8-6	1	35
Gibson	14- 7-6	5	3,360
Harris	11- 7-6	2	1,880
House	2- 7-6	1	580
Moppin	24- 7-6	1	725
Talley	11- 7-6	3	1,475
Prairie & Amerada:			
Sunny	14- 7-6	7	8,430
Pure:			
Cotcha	14- 7-6	6	3,445
Harjo	11- 7-6	2	1,204
Reiter-Foster:			
Bunyard	14- 7-6	4	3,760
Roxana:			
Caesar	11- 7-6	1	92
Hotulke	23- 7-6	4	1,392
Johnson	13- 7-6	3	2,762
Shaffer:			
Narcome	36- 8-6	2	247
Sinclair:			
Cosar	36- 8-6	3	900
Haney	12- 7-6	1	190
Tewee	14- 7-6	2	2,325
Skelly:			
Carl	14- 7-6	2	1,799
Slick:			
Reed	13- 7-6	1	390
Williams	15- 7-6	1	1,180
Snowden-McSweeney:			
Tiger	13- 7-6	3	1,797
Superior:			
Soketheche	1- 7-6	1	10
Brooks	25- 8-6	1	297
Texas:			
Coker	1- 7-6	3	680
Janey	11- 7-6	1	1,555
Texas & Independent:			
Hotulke	23- 7-6	1	1,565
Tidal:			
House	1- 7-6	3	520
Johnson	1- 7-6	1	30
Twin States:			
Lowe	25- 8-6	1	140
Total		264	134,044

Maud Pool

Barnsdall:			
Fife	14- 8-5	1	55
Gypsy:			
Bourassa	7- 8-5	1	....
I. T. I. O.:			
Simpson	10- 8-5	1	54
State	16- 8-5	1	....
Pure:			
Lindly	18- 8-5	1	....
Total		5	109

Mission Pool

Carter:			
Micco	8- 8-6	1	....
Gypsy:			
Baby	6- 8-6	1	....
Barkus	6- 8-6	1	....
Dosar	7- 8-6	1	....
Mission	5- 8-6	1	....
Mosar	1- 8-5	1	....
Marland:			
Maines	7- 8-6	1	....
Mid-Kansas:			
Moore	7- 8-6	1	180
Roxana:			
Maines	7- 8-6	1	....
Twin States:			
Hayes	8- 8-6	1	50
Total		10	230

Bowlegs Pool

Amerada:			
Roscoe	15- 8-6	8	1,275
Atlantic:			
Baker	10- 8-6	4	360
Fleet	23- 8-6	3	315
Grayson	13- 8-6	4	640
Jones, A.	16- 8-6	2	50
Jones, C.	9- 8-6	1	170
Barnsdall:			
McNac	28- 8-6	1	21
Murrow	11- 8-6	4	575
Carter Oil:			
Bowlegs	15- 8-6	4	1,130
Burden	23- 8-6	2	225
Harjoche	14- 8-6	6	786
Hilly	23- 8-6	3	710
Jones	11- 8-6	4	615
Walker	15- 8-6	4	515
Wise	23- 8-6	11	1,932
Dixie:			
Culley	11- 8-6	1	95
Empire:			
Lacy	14- 8-6	6	488
Wise	23- 8-6	2	220
Gypsy:			
Bowlegs	22- 8-6	1	220
Bradley	9- 8-6	1	2
Cumsey	10- 8-6	4	810
Grayson	13- 8-6	4	405
Harjoche	10- 8-6	3	665
Henderson	13- 8-6	1	....
Jones	11- 8-6	1	87
Walker	15- 8-6	7	1,122
Wise	23- 8-6	2	140
I. T. I. O.:			
Barnett	24- 8-6	2	329
Barnett "B"	23- 8-6	1	....
Billington	22- 8-6	5	475
Bowlegs	22- 8-6	10	1,490
Davis	13- 8-6	4	888
Fay	13- 8-6	9	1,673
Goforth	15- 8-6	12	1,211
Livingston	15- 8-6	10	2,195
Lizzie	13- 8-6	3	312
Walker	15- 8-6	8	890
I. T. I. O.:			
Williams	12- 8-6	1	183
Wilmott	15- 8-6	4	210
Work	24- 8-6	1	32
Youngblood	24- 8-6	2	91
Magnolia:			
Davis	13- 8-6	3	461
Davis, M.	13- 8-6	1	159
Hammond	10- 8-6	7	799
Rhodos	12- 8-6	5	1,958
Van Buskirk	9- 8-6	2	564
McCulloch:			
Bowlegs	22- 8-6	2	300
Mid-Continent:			
Baker	10- 8-6	4	614
Bowlegs	22- 8-6	1	7
Smith	12- 8-6	6	620
Minnehoma:			
Bowlegs	15- 8-6	4	315
Prairie:			
Gahagan	23- 8-6	4	205
Harber	10- 8-6	8	2,790
Jones	11- 8-6	4	340
Templeton	12- 8-6	6	1,900
Whitney	23- 8-6	4	705
Pure Oil:			
Reed	14- 8-6	14	3,669
Strother "D" 11 &	14- 8-6	4	490
Strother "E"	10- 8-6	7	2,170
Roxana:			
Taylor	16- 8-6	5	94
Shaffer:			
Lacy	14- 8-6	3	425
Sinclair:			
Cumsey	10- 8-6	4	1,340
Ellen	11- 8-6	7	994
Harjo	14- 8-6	3	672
Jones	9- 8-6	7	700
Taylor	15- 8-6	4	1,500
Taylor, W.	10- 8-6	3	430
Walker	22- 8-6	4	980
Slick:			
Jones	3- 8-6	1	468
Texas:			
Reed	14- 8-6	11	1,045
Tidal:			
Grayson	13- 8-6	4	335
Harjoche	10- 8-6	6	1,330
Jones	11- 8-6	1	....
Total		315	51,991

Earlsboro Pool

Amerada:			
Anderson	15- 9-5	2	535
Cowden	4- 9-5	7	1,224
Rogers	3- 9-5	2	147
Atlantic & Sinclair:			
Foreman	18- 9-5	1	140
Barnsdall:			
Brown	10- 9-5	4	2,160
Bruner, F.	2- 9-5	3	417
Bruner, N.	10- 9-5	3	1,037
Cudjo	14- 9-5	1	23
Davis, D.	11- 9-5	3	229
Davis, J.	11- 9-5	4	1,148
Davis, M.	11- 9-5	2	59
Gibson	9- 9-5	8	1,847
Hern	15- 9-5	1	1
Ingram	1- 9-5	8	1,101
Pack, S.	10- 9-5	4	168
Peter	10- 9-5	4	97
Sango	1- 9-5	4	2,527
Sebalka	15- 9-5	1	230
Sullivan, H.	11- 9-5	1	....
Sull-Harjo	10- 9-5	2	38
Wasutke	12- 9-5	4	913
Burke-Greis:			
Wisner	6- 9-6	1	1,375
Carter:			
Davis	13- 9-5	2	210
James	6- 9-6	3	5,365
Sango	1- 9-5	3	15
Continental:			
Kaya	2- 9-5	2	65
Spencer	12- 9-5	4	1,270
Empire:			
Barker	12- 9-5	1	80
Edmondson	3- 9-5	3	148
Gypsy:			
Bruner	10- 9-5	4	3,582
Carter, B.	11- 9-5	8	3,450
Earl	1- 9-5	1	18
Hunick	5- 9-5	1	1,717
Noble	12- 9-5	4	1,817
Peter	10- 9-5	3	315
Sango	1- 9-5	11	6,422
State	16- 9-5	4	1,550
Independent:			
Bruner	10- 9-5	3	440
Sullivan	10- 9-5	1	20
Knapp	8- 9-5	3	1,371
Independent-Margay:			
Gains	11- 9-5	3	615
Magnolia:			
Bryant	9- 9-5	6	446
Cowden	4- 9-5	4	50
Dixon	12- 9-5	1	25
Edmondson	3- 9-5	3	15
Holmsley	11- 9-5	7	853
Hyde	13- 9-5	1	1,366
Ingram	10- 9-5	1	15
Lena	10- 9-5	3	46
Seay	12- 9-5	8	2,807
Simpson	10- 9-5	4	536
Sparks	11- 9-5	7	876
Sullivan	12- 9-5	3	50
Mid-Continent:			
McCumber	9- 9-5	7	47
Mid-Kansas:			
Anderson	14- 9-5	3	15
Phillips:			
Runaway	11- 9-5	1	30
Prairie:			
Baker	24- 9-5	1	50
Davis	13- 9-5	1	2,740
Graham, C.	3- 9-5	2	20
Graham, O.	10- 9-5	1	975
Stidham	11- 9-5	12	2,000
Roxana:			
Bayless	17- 9-5	1	12
Hearn	13- 9-5	1	132
Spencer	12- 9-5	2	904
Shaffer:			
Clark	1- 9-5	3	412
McCoy	36-10-5	1	1,150
Sinclair:			
Foreman	18- 9-5	1	14
Hollins	12- 9-5	1	50
Sango	2- 9-5	4	3,200
Skelly:			
Mays	1- 9-5	1	3,447
Shepard	6- 9-6	1	1,712
Spencer	12- 9-5	1	470
Skelly & Atlantic:			
Sherry	6- 9-6	2	1,486
Superior:			
Ingram	1- 9-5	2	691
Walker	2- 9-5	3	3,172
Texas:			
Anderson	2- 9-5	8	385
Brown	10- 9-5	8	300
James	6- 9-6	1	605
Rogers	5- 9-5	4	2,430
Wilmott	10- 9-5	7	625
Tidal:			
Walker	35-10-5	1	2,255
Watkins	9- 9-5	7	2,780
Twin States:			
Barker	12- 9-5	3	53
Hern	2- 9-5	4	235
Total		285	83,452

Seminole Pool

Amerada:			
Fixico	23- 9-6	4	610
Killingsworth	23- 9-6	4	446
Rentie	23- 9-6	3	474
Atlantic:			
Cudjo, N.	35- 9-6	3	580
Barnsdall:			
Carter	24- 9-6	7	347
Henry	14- 9-6	2	705
Jones	34- 9-6	4	480
Carter Oil:			
B. Carter	24- 9-6	2	175
F. Carter	23- 9-6	3	115
Creamer	34- 9-6	2	10
Cudjo, R.	35- 9-6	1	240
Cudjo, W.	34- 9-6	1	28
Gilliland	27- 9-6	1	325
Grisso	23- 9-6	1	500
Grisso, M.	15- 9-6	1	165
Killings, G. F.	14- 9-6	4	43
Killings, M. E.	23- 9-6	12	4,675
Knapp	13- 9-6	3	38
Lukes	27- 9-6	5	900
Pounder	34- 9-6	2	50
Simpson	35- 9-6	2	192
Strothers	34- 9-6	4	493
Vierson	23- 9-6	2	130
Empire:			
Gross	25- 9-6	2	20
Wilson	34- 9-6	2	240
Gypsy:			
Butler	35- 9-6	4	682
Carter	24- 9-6	8	530
Cudjo	34- 9-6	4	197
Fixico	26- 9-6	7	120
Harjo	25- 9-6	3	590
Wolfe	26- 9-6	6	247
Independent:			
Fixico, S.	23- 9-6	3	475
Harjo	25- 9-6	2	100
Butler	35- 9-6	3	775
Fixico, T.	26- 9-6	6	673
Jones	26- 9-6	4	376
I. T. I. O.:			
Allen	25- 9-6	2	97
Bowlegs	26- 9-6	12	2,098
Goodin	23- 9-6	4	308
Harjo	23- 9-6	3	56
James	23- 9-6	2	264
Reed	24- 9-6	1	10
Kingwood:			
Johnson	22- 9-6	3	760
Magnolia:			
Boren	2- 8-6	1	3
Franks	25- 9-6	3	448
Mid-Continent:			
Rentie	14- 9-6	9	400
Tayeche	24- 9-6	7	245
Phillips:			
Strothers	27- 9-6	2	100
Prairie:			
Gross	25- 9-6	5	75
Mason	36- 9-6	1	60
Spencer	13- 9-6	1	10
Strothers	27- 9-6	8	1,925
Pure Oil:			
Strothers	26- 9-6	17	6,043
B. Strothers	36- 9-6	4	1,231
C. Strothers	34- 9-6	1	530
Roxana:			
Harber	22- 9-6	2	237
Lasley	22- 9-6	2	33
Sinclair:			
Carter	13- 9-6	2	25
Cudjo "A"	35- 9-6	6	1,145
Cudjo "B"	35- 9-6	4	637
Dicey	22- 9-6	2	650
Fixico	23- 9-6	4	1,275
Slick:			
Cudjo	35- 9-6	3	892
Franks	35- 9-6	6	1,445
Giblet	35- 9-6	3	1,516
Tiger	1- 8-6	1	45
Superior:			
Cudjo	35- 9-6	4	315
Texas:			
Mayhue	14- 9-6	1	280
Strothers	2- 9-6	1	115
Tidal:			
Carter	24- 9-6	4	561
Fixico	26- 9-6	6	790
Harjo	25- 9-6	3	300
Harjo, T.	23- 9-6	5	260
Turman:			
Cudjo	35- 9-6	4	623
Grisso	35- 9-6	1	110
Jones	34- 9-6	4	1,330
Total		287	43,793

Searight Pool

Amerada:			
Johnson	4- 9-6	1	50
Strothers	3- 9-6	2	1,070
Barnsdall:			
Jackson	5- 9-6	1	34
Carter:			
Davis	4- 9-6	6	428
Frazier	3- 9-6	6	3,114
Johnson	3- 9-6	1	1
Kiker	2- 9-6	1	18
Mandler	3- 9-6	2	13
Scott	26-10-6	1	15
Gypsy:			
Cudjo	4- 9-6	3	295
Mid-Continent:			
Grayson	34-10-6	6	60
Saloche	33-10-6	5	870
Nevins	32-10-6	1	965
Pine:			
Lula	4- 9-6	1	22
Prairie:			
Cannon	33-10-6	1	5
J. Carter	10- 9-6	1	2
Houch	33-10-6	1	4
Kincaid	33-10-6	4	80
Wimer	22-10-6	1	18
Pure:			
Aldridge	3- 9-6	4	1,040
Roxana:			
Strothers	3- 9-6	4	158
Sinclair:			
Polly	3- 9-6	4	1,380
Superior:			
Varnum	4- 9-6	1	54
Texas:			
Fleet	4- 9-6	1	30
Twin States:			
Varnum	4- 9-6	2	32
Wilcox:			
Chupco	4- 9-6	8	1,162
Total		69	10,848

Totals

Field—	Wells	Prod.
Little River	264	134,044
Mission	10	230
Bowlegs	315	51,991
Earlsboro	285	83,452
Seminole	287	43,793
Searight	69	10,848
Maud	5	109
Grand total	1,235	324,467

TED CONSIDERED THIS PART OF A DAY'S WORK

BUFFALO, N. Y., Oct. 6.—Ted Milliken, employe of a Bradford, Pa., powder company, is recovering from burns received late yesterday when he saved himself and several spectators from death at the mouth of a well from which escaping gas accidentally became ignited.

Thirty quarts of nitroglycerin had been lowered into the well to a depth of 2,879 feet. Milliken prepared a jack squib of 40 per cent dynamite, fulminate of mercury percussion cap, and time fuse. No trace of gas was noticed at the top of the well.

When all was in readiness, Milliken lighted the fuse. He was 30 feet from the mouth of the hole at the time. As he sprang forward to drop the dynamite, fumes hovering about the well ignited.

On the first shock Milliken dropped the dynamite and sprang back.

Eye-witnesses declared that before the men around had an opportunity to run, Milliken had recovered, plunged back into the flames and retrieved the dynamite. As he rushed from the spreading flames he pulled the fuse from the cap and smothered the dynamite under his coat.

Officials of the gas company of Gowanda, for which the well was being drilled, declared that Milliken's act saved the superstructure of the well from being blown among the group watching the opening of the well.

NEW YORK UNIVERSITY OPENS COURSE IN OIL

The Wall Street division of New York University has begun an oil executives' course in petroleum production problems, conducted by Dr. Ernest R. Lilley, author of "The Oil Industry" and "The Geology of Petroleum and Natural Gas." The course is designed for those engaged in the oil business and those who in the judgment of the instructor can contribute to the discussions. The method of presentation is determined largely by conditions existing in the oil industry. The "round table" method of discussion is to be used more than the formal lecture. The tentative outline of subjects for discussion follows: Exploration technique, development and production technique, crude oil marketing procedure, problems of individual areas, crude oil valuation, overproduction problems, conservation and stabilization movements, property valuation and financing. Each Monday from 5:15 to 7 p.m. is assigned for the course, which will continue until May 13.

MILLION CARS IN CANADA

Automobile registrations in Canada are likely to reach the 1,000,000 mark by the end of 1928. There were 945,672 motor vehicles in Canada June 1, states the Dominion Bureau of Statistics. This was an increase of more than 60,000 compared with the beginning of the year. The Province of Ontario, with 436,120 cars, an average of 13.7 cars to 100 population, has 45 per cent of the total for the Dominion. Quebec has 128,459 cars, or 4.9 to 100. Prairie provinces, Manitoba, Saskatchewan and Alberta, have an aggregate of 244,329; British Columbia, 77,617; Nova Scotia, 30,059, and New Brunswick, 24,544.

Canada is building good roads to keep abreast of increased automobile ownership. The Canadian Good Roads Association says more money is being spent on highway construction throughout the Dominion this year than in any previous year. Construction of a $50,000,000 asphalt road from coast to coast across the Dominion is one project contemplated.

Demand for Petroleum Specialties

Expansion of Market for Many Articles of Daily Use, Products of Petroleum, Feature of Our Foreign Trade

By Charles E. Kern
Washington Bureau, The Oil and Gas Journal

WASHINGTON, D. C., Oct. 8.—One of the most prominent developments in the progress of American export trade during the past year has been the prominence of "specialties" that have grown in importance in the successful invasion of world markets.

The oil industry has been no exception in this trend of American commerce. There are many articles of daily use, products of petroleum that have gained popularity abroad and men who have made a study of our foreign trade believe that today the foundation has been laid for an increase in oil "specialties" that may be sold all over the world. There are no particular trade secrets for the accomplishment of this purpose. The methods adopted by many other lines of industry form the groundwork by which it is believed that any oil product which has proved successful in the United States can be popularized abroad. Just where sales for such products can be best effected is a matter for detail study to be pursued on lines of action that have brought success for other industries.

Commercial Intelligence

One of the leading activities of the Department of Commerce is that which relates to commercial intelligence work and for a manufacturer beginning an export trade it is a good place to get a first view of what he should do.

The volume of information respecting the needs of the exporter performed by this bureau is shown by the fact that it sends out at this time 6,000 requests every month to our foreign representatives abroad asking them to ascertain some fact or facts relating to business affairs. The increasing use that is being made by this great mercantile agency of the government is evidenced by an increase in the number of these requests for information during the last year amounting to 100 per cent.

This division, like all other divisions of the Bureau of Foreign and Domestic Commerce has a personnel of United States consuls, trade commissioners and commercial attaches abroad numbering about 1,000 of which about 65 per cent are in the consular bureau. Daily a large mail is sent to the post office or to the State Department for special handling from this division alone, and a corps of clerks is engaged in scanning the incoming mail and preparing from it reports on inquiries that have been received.

Expert Advice

When a manufacturer desiring to enter the export trade consults A. S. Hillyer, who has been chief of this division during the past six years, he finds he is in contact with a man who for 25 years was interested in sales work before he entered the service of the government and during that time represented the Waltham Watch Co. in China and elsewhere abroad and at home. Being familiar with the foreign trade operations of his company taught Mr. Hillyer methods of salesmanship which could only come from experience and which applies in a general way to all branches of selling abroad.

There has never been any complete survey of the products of petroleum either at home or abroad. Just what becomes of oil that does not go abroad in the form of bulk shipments or shipments of standardized products exported in large quantities is unknown. Every now and then some product that may be termed a "specialty" is brought to public attention when it is learned that considerable sales have been effected.

One of these instances relates to a household lubricating oil which has been systematically placed on sale practically all over the world. The methods pursued in popularizing and making this article available everywhere, in the opinion of students of the export oil trade, are no different from those that might be applied to many other oil "specialties."

When the ambitious vendor of a manufactured article wishes to push it into foreign trade and seeks advice of the Division of Commercial Intelligence, he is advised to inform himself in respect to foreign opportunities by getting replies to a standardized list of questions which the bureau itself offers to furnish free of charge.

Questions to Be Answered

In each instance of this kind the article to be sold calls for special consideration so that it may go to the right localities which are determined by many factors of salesmanship. He will be assisted by the division in getting replies to the following questions:

What is the per capita buying power of the country?

What competition must I be prepared to meet?

Is a line similar to mine being manufactured in the country? If, so the extent of production and sales prices, wholesale and retail?

What were the total importations over a period of time of a line like or similar to mine from countries other than the United States of America?

What were the importations from the United States of America?

Are there preferential duties favoring any nation shipping into the market?

Are any tariff changes contemplated?

What buying terms are prevalent?

Is the market such that steady or continuous selling can be expected, or is it seasonal, affected by crop movements, climate or other contributing causes?

What is the general financial condition of the country? Are national budgets balanced; is the currency subject to wide fluctuations; has the country a sound banking system; can local banks be depended on to handle financial transactions with ordinary care?

Do dealers, either retailers or wholesalers, or both extend long or short credits to buyers?

What sales assistance, if any, is given dealers by those with whom I must compete?

What type of advertising seems to have the most effective appeal?

Many Things to Learn

There are many things that the American exporter entering a new field with a product hitherto unknown there has to learn. One is that he cannot expect agents to buy quantities of his manufactured article and pay cash for it. House to house canvassing is looked upon as out of the question in the export trade although some large and successful business firms are able to conduct that kind of salesmanship throughout the United States dealing directly with the salesman. The exporter must be prepared to give credit. He must choose in respect to the nature of the agencies he is to establish, deciding upon a policy of giving a large or limited area, according to the nature of his product and conditions that prevail in the country he invades.

The wonderful progress that has been made in American export business is shown by the fact that in 1913 our total foreign sales amounted to less than $2,500,000,000 and since 1924 it has been close to $5,000,000,000. In 1925, American exports amounted in value to $4,909,000,000; in 1926, $4,808,000,000 and in 1927 $4,864,000,000. Immediately following the World War the total was $8,000,000,000 annually, but it must be remembered that this foreign trade is expressed in American dollars whereas general deflation and the lowering of war prices through foreign competition has made it necessary to ship a much larger volume of goods for every dollar received in payment. In 1919 and 1920 European countries were paralyzed in their trade activities.

There are now between 15,000 and 18,000 manufacturers and merchants of the United States selling their goods abroad. Practically anything that can be sold in this country can be sold in foreign lands. It is a fact that a great many of the foreign markets take very kindly to what we term "specialties" and are very well disposed to order American brands.

In beginning invasion of a foreign market with a "specialty" hitherto unknown in that part of the world, it is necessary to obtain a resident salesman who will work to dispose of the article, not to consumers, but to the wholesale or retail trade. Immediately after the World War, the foreigner sought American goods but now that European manufacturing companies have recovered their pre-war activities it is a case of the American manufacturer seeking a market. Any such manufacturer can obtain from the Division of Commercial Intelligence the names of such salesmen in selected areas where it is believed the goods will find a market. Usually these agents, being employed by other American firms, can be reported on in respect to what they have accomplished by those who have tested their selling abilities in other lines of trade.

Mistakes to Be Avoided

One of the most important elements of success of the American exporter is to avoid mistakes that have been made by others and that is the particular service that may be expected from the Division of Commercial Intelligence. It would be folly to introduce an article standardized in quality so that it is no better than some competing commodity and expect to get a higher price for it. To obtain such a higher price there must be positive talking points in respect to quality.

Newspaper and magazine advertising abroad require the same discriminating judgment as would be applied to the same problems in this country. There is no special distinction between the value of advertising in one country or another beyond the element of publicity obtained and that must be decided in each particular case.

It should be remembered that the foreigner is less likely to snap up a new idea than is an American.

Letters and circulars do not carry conviction to the foreign purchaser but in their place there must be a direct contact between the salesman and the buyer.

Local prejudices are important and even the color of wrappers may become an element of popularity. In the Far East that is particularly so. In China a yellow wrapper will create a friendly disposition on the part of the Chinese consumer.

The first man in the field often has an advantage of which no one can deprive him. In China the Standard Oil Co. gave away lamps to introduce illuminating oil and the Chinaman still associates the lamp and the oil needed to operate it with the Standard Oil Co.

Choice of Agents

In the choice of agents abroad throughout the world there are on file at the Department of Commerce 365,000 names. These lists contain many men who are qualified by their standing and financial rating, as well as by experience, to represent oil companies, whether dealing in standard articles or in "specialties."

The hazard of selling abroad is not regarded as any greater than in the United States if the exporter will take proper precautions to minimize risks. Popularly this risk has generally been rated as about 1 per cent. Some exporters have put it as low as one-half of 1 per cent. It must not be supposed that the foreigner is not dependable and cannot be relied upon to meet his obligations. Just as in the United States there is a certain percentage of dishonesty everywhere in the world and the Division of Commercial Intelligence will undertake to weed out prospective foreign buyers and agents whose reputation for fair dealing is not good.

There are many commercial houses known to every business man that will assist in reporting upon credits and every bank either can itself, or through some correspondent, obtain such reports from other banks throughout the world.

Once the new invader of a foreign market gets started in the establishment of sales methods, and begins shipment of goods, every problem of a commercial nature in the handling of his trade can be carried to the Bureau of Foreign and Domestic Relations, the several divisions of which are equipped to take up and assist in solving his difficulties.

DR. BERGIUS REPORTS ON PROGRESS OF FUEL

Characterizing progress by the I. G. in hydrogenating coal for a yield of synthetic gasoline as "extraordinary," Dr. Friedrich Bergius, Heidelberg, recently told Dutch chemists, meeting at their twenty-fifth annual jubilee, that all oil fractions produced by the dye trust from coal hydrogenation could now be converted into gasoline. A new I. G. improvement on the process now permits it to recover light or heavy oils, as desired, he said.

Some time ago in discussing this question, Dr. Bergius said, "The oils produced from coal by the liquefaction process are recovered in separate fractions, as is the case in petroleum refineries. The gasoline differs from petroleum gasoline through the circumstance that it contains considerable quantities of ring-shaped hydrocarbons, partly naphthenes and partly aromatics. It is therefore to be compared, considering its combustion qualities in the motor, to mixtures of ordinary gasoline and benzol. It is an anti-knock gasoline. Certain phenol constituents, carbolic acid and cresol, occurring with the pure hydrocarbons, can be considered chiefly for use as impregnating (woodpreserving) oils.

"The medium oils can be fractionated further by a repeated thermal treatment, so that a higher yield of motor gasoline is attained. This is particularly the case with oils produced from younger coals (lignite). Whether this fractionating is economical depends on the market for Diesel oil. We are of the personal opinion that it is better to put these products on the market as Diesel oil.

"It cannot be stated as yet whether the American cracking process is as suitable as the German hydrogenation process for a fractionating of the medium oils that come into question."

At the twenty-fifth jubilee meeting of the Dutch Chemical Union, Dr. Bergius stated further that the I. G. would never have financed lignite hydrogenation on such a large scale had it not been economical. He also emphasized that the German government had never helped to finance his pioneer research, and that if it had, his process would have been ready for commercial exploitation five years sooner.

35 CENTS a line first insertion; 25c a line each additional insertion. Cash in advance.

CLASSIFIED WANTS

CREATE AND BUILD BUSINESS

MAIL your advertisement now. It will be published next week. Cash with order.

FOR SALE—EQUIPMENT

55,000 barrel, brand new Tank, $5,000. Just one of many bargains in tanks.
180 H. P. Fairbanks Morse, full-Diesel Oil Engine, brand new. Price $7,500.00. Above only a few of our bargains. Send for 28-page bulletin.
3,000 tons 70 lb. extra choice rails. Also have other weights.

ZELNICKER IN ST. LOUIS.

Specialists in Rails, Equipment, Tanks, Steel Sheet, Piling, for 30 years.

FOR SALE—1 No. 28 Star machine with calf wheels and 30 mast, 45 H. P. mounted boiler, plenty of tools, all in first class condition.
1—27 Star machine, mounted boiler, some tools, located in southeast Kansas. Address Box C-573, The Oil and Gas Journal, Tulsa, Okla.

FOR SALE—A complete set of tools, together with derrick and rig and two strings of pipe located in Lea County, New Mexico. For inventory and other information communicate with undersigned at Fort Worth, Texas.

B. K. ISAACS

Trustee in Bankruptcy,
602-03 Dan Waggoner Building
Fort Worth, Texas.

USED LINE PIPE AND CASING FOR SALE

450′ 15½″ 70-lb. used casing.
1,000′ 12½″ 50-lb. used casing.
2,200′ 10 ″ 40-lb. used casing.
2,100′ 8¼″ 32-lb. used casing.
3,900′ 6⅝″ 24-lb. used casing.
Located in Oklahoma.
Above pipe was purchased new and used in one well.
KEYSTONE PIPE AND SUPPLY CO.
607 Holmes Bldg.
Fort Worth, Texas.

PIPE LINE EQUIPMENT FOR SALE

2—Waterman Backfillers.
2—Cleveland Trenchers.
2—Fordson Tractors.
1—Bitumastic enamel outfit.
1—Parson Ditcher.
2—Extra Fordson Wheels.
1—Mormon Board.
1—Backfilling Blade.
All the above equipment in good condition and ready for work. If interested communicate with:
THE WESTERN GAS CONSTRUCTION CO.,
FT. WAYNE, INDIANA.

FOR SALE OR TRADE one Star Drawing Machine, No. 23. In first class condition with a full string of drilling tools or will trade for a standard string of tools. The Star Machine has rubber tires and a mounted boiler and derrick. Write G. H. Dempsey, Stop 22½ Lorain Road, N. Olmsted, Ohio.

FOR SALE: No. 30 Special Star Drilling Rig with complete outfit. First Class condition. Special bargain. W. H. Martin, 1326 Adams St., Bowling Green, Ky.

STAR DRILLING MACHINE

Size 30; complete from 15 inch down; A-1 condition; located in Texas. Address Box 342, Abilene, Texas.

NOTICE

For sale, Wilson Refinery equipment, tanks, still, pumps, agitator, boiler and pipe and connections. Was running this year. In A-1 condition.
W. BOGART
Burkburnett, Texas Phone 136

A-1 ROTARY drilling rig, 3,000 feet drill stem and tool joints, one-third down, balance monthly payments, or all cash: a bargain. Write P. O. Box 340, Brenham, Texas.

FOR SALE—EQUIPMENT

LIQUIDATION SPECIALS OF WAYNE WOOD PRODUCTS CO.
COLLINWOOD, TENN.

5— H. P. H. R. T. 150 lb. Boilers, complete.
2—38″ all Copper Distilling Columns.
40—Retort Condensers.
2—Nordberg Unaflow Steam Engines, direct connected to Allis-Chalmers 500 K. V. A. Generators, 480 volts, 2 phase, 60 cycles, complete with switchboard, exciters, etc.
1—Baldwin 60 ton and 1—Porter 45 ton standard gauge Steam Locomotives.
4—20,000 Gallon Horizontal Steel Storage Tanks.
30—Miscellaneous Tanks, 3,000 to 6,000 gallons.
Send for complete booklet listing Pumps, Motors, Stills, Tools, Air Compressors, Building material.
CONSOLIDATED PRODUCTS CO., INC.
17-20 Park Row, N. Y. C. Barclay 0602

FOR SALE

1—40 H. P. Patten Bros. air compressor building and all equipment, located southeast Kans., address, Box C-601, The Oil and Gas Journal, Tulsa, Oklahoma.

ATTENTION
GASOLINE FRATERNITY,
PIPE DEALERS.
Bargains! Hurry!
Two Newton absorption Gasoline plants, gathering lines, compressor complete equipment.
Located Breckenridge and Waskom, Tex.
Must sell by October 22nd.
Inventory on request.
WIRE
W.B. Lea,
Receiver,
Marshall, Texas.

1—84′ Turnbuckle Rig, complete with 6″ Irons, all steel equipment, practically brand new, at a bargain. Located near Denver, Colorado.

SPECIAL FOR DEEP TEST HOLE

5,600′—8¼″Nat'l. Seamless A.P.I. 10 thread special 28-lb. casing, practically brand new, once run.

Let us have your inquiries on Oil Country Goods.

THE GRIMES PIPE AND SUPPLY COMPANY
1300 Larimer St., Denver, Colo.

RAILWAY TANK CARS TO LEASE

Twenty tank cars for long or short period; 8,000 gallons; Class III; coiled; first class condition; immediate delivery; very low rentals. Write or wire Wheatcroft Company, Box 13, Station H., New York City.

FOR SALE, 2 Twenty Seven, Star Drilling machines fully equipped with tools, from twelve one half down, also Twenty Four, Stary fully equipped. Geo. C. Staves, Paola, Kansas.

FOR SALE
ABSORPTION GASOLINE PLANT
Equipment and storage tanks.
Address CGH, The Oil and Gas Journal
Tulsa, Oklahoma.

EQUIPMENT WANTED

WANTED: used gas engines, any quantity to carload. 15 H. P. to 25 H. P. Reverse Clutch, Reids and Bessemers. State condition, number for sale, and price.
HERMAN SCHAUWECKER & SON
Parkersburg, W. Va.

WANTED

BUDAH WANTED AT ONCE
Proven Proposition.
J. D. IRWIN, 910 Plum St.,
Cincinnati, Ohio.

BUSINESS OPPORTUNITIES

IN SHALLOW DRILLING

I have one of the best propositions in the East. E. D. Watkins, Irvine, Ky.

OIL INVESTMENT

We offer an opportunity to investors, oil producers and oil companies to participate in the drilling of a well in practically proven field where the oil is of extremely high gravity and gasoline content running up to 70% natural. This organization is capitalized at a small number of interests and a $100 put into it might yield to you wonderful returns. A good clean proposition that will stand up under rigid investigation. Every answer to this advertisement will receive prompt attention and maps and full particulars will be sent you at once. Address Box C-559, The Oil and Gas Journal, Tulsa, Okla.

MANUFACTURERS REPRESENTATIVE

Wants an additional line sold to producing end of petroleum industry. Represents at present three well known manufacturers and would like to get in touch with a fourth one. Works the field actively and well known to superintendents and purchasing agents. Box C-201, The Oil and Gas Journal, Tulsa, Okla.

IF A REAL MONEY MAKING mining proposition would interest you, write to Post Office Box 2833, Denver, Colo.

CAPITAL SEEKERS—Put your project before 260 livewire brokers—cost trifling. Details free. Amster Leonard, East Orange, N. J.

MICH. 18,000 acres solid block; also 9,000 acres Thumb of Michigan. Surrounded by major oil companies. Want drilling contract. W. E. Hughes, Pontiac, Ill.

WE BUY, or Refinance Gas, Oil or Pipe Line Companies with assets of One Million Dollars, or more. Address: P. J. Minck, Tulsa, Okla. Phone 4-0245.

A NATIONAL small meritous article used in every home, protected by valid patents. Inventor will sell on royalty basis or entire rights to party that will finance manufacturing and marketing it. Samples mailed. Write A. T. WOOD, 3020 Magnolia St., Oakland, Cal.

POSITIONS WANTED

COMBINATION MAN: Scouting, subsurface, Pet. Engineering, land and production experience, desires connection with major or independent company. Any Texas area, preferably West Texas. Age 28. Box C-581, The Oil and Gas Journal, Tulsa, Okla.

MAN WITH OIL FIELD experience wishes job with oil operator in South America. Speaks Spanish. James G. Felker, Epps, La.

COMPETENT help may be secured quickly with a classified ad in The Oil and Gas Journal.

REFINERY SUPT. Eighteen years experience, thoroughly familiar with designing, construction, and operation of modern complete plants. Box C-562, The Oil and Gas Journal, Tulsa, Okla.

MATERIAL Man. Ten years experience, field, office. Three years Supt. of material dept. Best references. Box C-603, The Oil and Gas Journal, Tulsa, Okla.

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The OIL and GAS JOURNAL
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Classified Wants Department

Consumption Large for the Season

Chicago Gasoline Distributors Ordering Freely With Stocks Light. First Cold Snap to Boost Distillate Demand

By J. B. Waldo

CHICAGO, Ill., Oct. 8.—The consumption of gasoline is large for this season of the year and distributors are ordering freely although the orders are for small amounts and wanted at once. Dealers' stocks are evidently light judging from orders coming to this market on Monday. The week-end was very pleasant and the motorists made the most of it. Much of this spot business went to marketers who are quoting lower prices than the 9¾ cents held by leading refiners. Some purchases were reported by large refiners who paid 9¼ cents for gasoline. The prevailing range to the trade for U. S. Motor gasoline was 9¼ to 9½ cents.

The demand for the higher gravities was not important. Natural gasoline was quiet in this market. Kerosene was not in large demand and the market was easy with almost none asking more than 6¼ cents and sales being made as low as 6 cents for the 41-43 gravity.

Distillates were not active although strong in price. Dealers feel sure that the next cold snap will bring them a large business and are waiting. Gas oils showed no particular activity at the opening of the week. Prices were firm and unchanged.

Inquiries for fuel oil Monday were not from important buyers and most of the monthly ordering has been done. There were no changes as to prices from those at the close of last week. The outlook for the coming week is for little change unless there be another cold snap in which case there should follow a larger demand for all kinds of domestic burner oils with some added firmness to prices on these.

Statement Is Misleading

The statement that U. S. Motor gasoline is being quoted by the larger refiners at 9¾ cents, Group 3, is misleading. Well-posted oil men state that 90 per cent of the movement into this territory is on marginal contracts. Gasoline sold on such contracts does not cost the dealer nor does it net the refiner 9¾ cents. The average selling price under these contracts is not far from 8½ cents. This price is being gradually advanced as the newer forms of contracts with their 3½-cent margin take the place of the older contracts which averaged at least 4 cents.

Many of these older contracts carried a guarantee of more than 4 cents as is well known to the industry. But with the advance in the refinery price there has been a strong movement on the part of refiners to reduce the margin guaranteed to the distributor. In another year, with a continuance of the same methods in the refining end of the industry that have prevailed for the past six months, the 3½ cents margin will be almost universal and the larger guarantee the exception.

A year ago the buyer in the spot market had the advantage over the dealer who operated under a contract even on one of the contracts liberal by comparison with those being made at the present time. He could buy at a lower price. Today he cannot do this. At this writing the low market for good spot gasoline is 9¼ cents. Not all can be supplied at this price. This spot cost for gasoline of 9¼ cents compares with the average of 8½ cents under the average existing marginal contracts and very close to 9 cents under the new 3½-cent guarantee. As the new conditions become better stabilized the tendency must be for the gasoline spot market to approach the average price under the contracts in force. The refiner who sells his product largely in the spot market cannot under average conditions of supply expect his customers to pay him a higher price for his gasoline than the competitors of his customer pay.

Based on Tank Wagon Price

Practically all of the larger refiners today are basing their contracts on the tank wagon price. The distributor buys at the spot market as determined by the refiner in one of several ways and is guaranteed a cost delivered that shall not be higher than the tank wagon price less the margin agreed upon and stipulated in the contract. The tendency is for the integrated companies who sell their product to independent dealers on annual contracts to reduce the margins. Some of these companies do not refine sufficient gasoline to supply their own stations and care for the needs of their contract customers. They are regular buyers from other refiners and their purchases do much to strengthen the spot market at least in the seasons of best demand. Their purchases also do much to reduce the quantity of gasoline that would otherwise be available to independent dealers. This demand from the integrated companies is not uniform the season through and this puts the refiner who depends on the spot market in a very uncertain position. He is sold ahead at times and during the periods of smaller consumption and export demand he is equally certain to be seeking a market.

Few of these refiners are assured of a crude supply. They contract with producers for some period or buy in quantities and store their crude. This makes their operation uncertain especially with the growing movement for restrictions of crude production in all the major fields. The immediate outlook is for further decreases in the sales of gasoline in the spot market. The tendency is right now for the integrated companies to increase the number of their owned outlets and to decrease the number of their contracts. Last week the major distributors in this territory ceased writing contracts with owners of stations on the lease or the lease and commission basis.

Termed Educational Period

The past spring and summer season was described last week by the sales manager of one of the large integrated companies as an educational period. When asked who was being educated, he said that the entire industry has been going to school. For one thing the refiners had learned that it was unnecessary for them to sell gasoline at a loss; that a fair business at a profit was infinitely better than a large business at a loss; that the assured consumption was so large that there was sufficient business for the established refiners without their handing over to their distributors all the profit to enable the refiner to sell all that he could run. His further comment was that when the distributors realized as they must in time, that such wide margins were not necessary to the conduct of a successful jobbing business and that resorting to cut price sources of supply to enable the dealers to secure an excessive unnecessary margin was the height of folly, the educational campaign would be completed.

Today there are litterly thousands of small stations offered for sale and no one to buy them. Last week two large and well-established distributing organizations were purchased by two of the major companies. The statement made after the completion of a survey of the gasoline outlets last season was that there were three times as many sales contacts with the public as were needed for the adequate supplying of all the needs of the motorists. These useless, because unneeded, outlets have been very largely maintained out of the profits that should have gone to the refiner and not as is the case in some industries through the high prices charged the public. Mass distribution is bound to succeed mass production in the oil industry, as in other important industries.

Gasoline Demand Active

There was a rather more active demand last week in the spot gasoline market but the actual consumption though still larger than a year ago is decreasing with the march of the seasons and the bulk movement was less on the whole. There was the same report from the larger refiners that their contract customers were taking out their quota regularly and fully. But the quantities scheduled for October delivery are less than for August. There was also a good deal of spot buying but much of it was for single cars. That dealers' stocks were low was shown by the number of orders which demanded rush shipment and wanted the shipments traced at once.

There was more strength in the market but at the same time there was a gradually lowering of prices by such sellers as sought the business of the spot buyers. Some of these sellers who at the opening of the week would not sell under 9½ cents admitted that towards the close they occasionally had to make a price of 9¼ cents if they wanted the business. These claimed that several of the smaller refiners both in and outside of Group 3 were quoting the trade direct at 9¼ cents. This, according to some of the best buyers, was the lowest at which good material could be had and the very same buyers also stated that they felt that there was a considerable movement at less than that price to the trade. Several of the brokers operating from Tulsa have sent out quotations of 58-60 Navy gasoline DT," at 9 cents and of 437 endpoint blends at 8⅝ cents, but the number of cars offered really is too small to be considered. Yet it does have an effect on the minds of buyers who tell salesmen that they are offered U. S. Motor gasoline at 9 cents.

The quality of the gasoline must also be considered. A good deal of West Texas gasoline has come into this territory. There are many reports of rejections but most of it sticks and this gasoline can be bought at 9 cents and a little less. Some of it is good gasoline. The opportunity for the sellers of this product is in the spot market and this rather new element may have an important effect in determining the price at which the standard product from the Mid-Continent Field will sell.

There was little change in the demand for the higher tests. The weather has been some warmer over the territory and jobbers are still running on the U. S. Motor grade. Antiknock gasolines are still in demand at the usual premiums. There has been a fairly active inquiry for natural gasoline from dealers but not an active market. Prices have eased off a little. No change is noted in the differential points to the east of this city except that conditions in Ohio are stated to show improvement, less price cutting, and apparently a better understanding among dealers.

Kerosene Quiet

Kerosene has been quiet and the prices easy. Refiners generally have reduced their price for the 41-43 gravity and some quotations for resale have been received at 5¾ cents but the market to the dealer ranges around 6⅛ cents with refiners selling direct at that price although some are still asking 6¼ cents. The demand is being rapidly reduced. Reports have been received of investigations in Ohio of the quality of gasoline being supplied by some stations and tests of samples showed that it was a blended product containing kerosene.

Distillates have been in good demand from distributors. The immediate rush on the dealers by consumers for their first fills has abated and with the warmer weather the consumption is small right now. Prices are firm with several refiners asking a small advance. According to recent statements some of the leading sources of supply in past seasons will have only a small quantity of distillate this season but they may change their minds in regard to the quantity if the demand from their dealers is sufficiently strong to make it certain that they can sell a larger quantity than they had planned to run and get a fair price.

With usual weather conditions no runaway market is anticipated but slightly higher prices will prevail. Right now a a good 38-40 straw distillate with a low flash and good odor is selling at 3¼ cents with many asking a higher price and none available at less than is really desirable. Some of the local distributors say that their business in distillates is running about one-third larger than it did a year ago. This is due in part to more installations and in part to the early cold weather. The new installations are largely in the smaller type of domestic oil burners which are distillate burners only. One of the best-known makers of domestic oil burners reports a sales increase for the first nine months of this year of 53 per cent over last year for the same period. This of course includes burners which will use all grades of oil, not only distillate burners.

Gas Oil Holding Its Own

Gas oil is just about holding its own as to price although there is a good demand both for the straightrun and the recycled oil. Gas companies are now in the period of larger consumption both for light and for heat. The reports of the local gas company show a rather surprising number of homes heated with gas. In conversation, one of the executives stated that they were receiving many inquiries and securing a fair proportion of new contracts. He stated incidentally that the natural draft oil burner was a very good thing for the gas companies as it was just enough better than coal to make the owner want the best kind of heating plant that could be had. Every user of a natural draft oil burner is a good prospect for a gas burner, he said. This development is not a bad thing for the oil industry as the gas now used is enriched for the most part with oil. The usual quotation at which the gas companies are buying the straightrun gas oil is still 2⅜ cents, which is the price some large sources are making on large orders. For smaller quantities their price is 2½ cents and other refiners have asked as high as 3⅝ cents, although little business is going at that price.

On the zero gas oil the demand continues very good for such products as are strictly good domestic burner oil. This includes as low as 26-28 gravity oils, although some of the refiners prefer to call only such product a gas oil as is sold to gas companies for gas manufacture. The other products they designate as fuel oil and give the various specifications to show for what uses it is best adapted. One of the most wanted products in this class at present is the 28-30 gravity fuel or gas oil, it being differently designated by different refiners. This is the favored fuel for the oil burners in the larger class of buildings. The market for these recycled oils ranges from 2⅝ to 3 cents, according to its quality. The straw gas oil with a low

(Continued on Page 151)

Eastern Gasoline Market Weakening

Big Demand for Furnace Oil Encouraging With Kerosene in Strong Position. Ethyl Gasoline on Sale in New York

By Special Correspondent

NEW YORK, Oct. 8.—Further weakness, with general price cutting, has developed in the East Coast gasoline market this week. Kerosene has worked into firm ground and is moving well. Lubricating oils have been quiet, but prices are holding. Fuel and gas oils are unchanged, with the market tone a little better due to the heavier movement of furnace oil. Unsettled conditions prevail on paraffin wax, with conflicting reports heard, and evidently pronounced "long" and "short" elements competing for control of the situation.

Early-season demand for furnace oil has been one of the bright spots of the market. Estimates of the number of new installations of oil-burning units for the country as a whole place the increase this season at at least 150,000, making an estimated total of 750,000 burners in use by the end of this season. With estimated annual consumption of 2,500 gallons per burner, consumption of furnace oil this season should approximate 45,000,000 bbls. Representative oil burner men estimate the potential market in the United States for their product at 20,000,000 burners. Thus far, a large part of the installations of the country have been in East Coast territory, and the increase in the number of installations in this territory for the current season has been placed at 50 per cent over last year's total new installations. Accepting these figures as a fair index of the situation, it is thus evident that East Coast refiners are in for a favorable season on their furnace oil this year. Early sales and contract bookings bear out the reports of the heavy number of new installations.

Gasoline

While leading refiners continue to quote the open market for tank car U. S. Motor gasoline at 11¾ cents, this price is the exception rather than the rule in current trading. Leading refiners are generally making an effort to hold their sales to a minimum of 11½ cents, although business is reported clear down to 11 cents. While none of the larger refiners has been willing to take the initiative in an open price reduction, all are being forced to shade their prices on competitive trading. It is felt in some quarters that the refiners have made a mistake in attempting to hold the 11¾ cents market and that a reduction in line with prevailing market conditions should be made promptly to keep the market from getting completely out of hand.

Business has fallen off considerably, as might be expected under prevailing market conditions, and jobbers are buying only for their day-to-day requirements, ordering forward gasoline in one-car lots to take care of their immediate requirements. This situation is giving refiners in the East Coast area a chance to replenish their stocks and make up some of the ground lost in this direction during the heavy consumption during the summer season.

Tank Wagon Gasoline

Refiners who four or five weeks ago were talking of the record-breaking demand for motor fuel reaching them are now asking where the business has gone. Judging from the reports of current sales totals, consumption has fallen off materially in this area. The refiners with their own chains of service stations have not felt this situation as much as those who sell largely in tank car markets and to independently owned service stations. Distributors, both wholesale and retail, appear to be apprehensive over the stability of the price basis, and thus are "buying close." In so far as the tank wagon market is concerned, there seems to be little cause for apprehension, however. There has been no general cutting of prices, either wholesale or retail.

Ethyl gasoline is now on sale at retail in New York City for the first time in several years. Following the removal of the ban against this fuel by the local Department of Health, the Tide Water Oil Sales Corp. has put ethyl pumps into many of the service stations in the city. The ethyl fuel is being retailed at 23 cents a gallon, the same quotation at which other premium fuels are being sold in Greater New York.

Kerosene

There has been a good demand for spot kerosene during the week, and the market remains in strong position. Standard Oil Co. of New Jersey advanced its tank car quotation one-half cent to 9 cents on October 2, following the increase named late in the preceding week by Sinclair and other sellers, and the market is now definitely established at 9 cents. This was followed in turn by a one-quarter cent advance in the export price of cased kerosene. Stocks held at eastern refineries are by no means large, and with demand holding at the current rate there is some likelihood of further price advances in the near future, refiners declare. A gradual expansion in consumption can be looked for as the winter season progresses, sellers say, and with no important additions to production or stocks in sight, the statistical position of the market is bound to work into firmer ground, with a higher price basis a natural result of such a condition. Seasonal increase in production is indicated in the Bureau of Mines report covering August operations. Production in that month totaled 5,389,000 bbls., as compared with 4,994,000 bbls. in July and 4,420,000 bbls. in August last year. Production for the first eight months of the year was 40,055,000 bbls., against 36,851,000 bbls. in the corresponding period of 1927. August exports fell off a little at 1,678,000 bbls., against 1,834,000 bbls. in July and 1,700,000 bbls. in August, 1927. Domestic consumption thus far in 1928 has run a little behind last year, at 24,088,000 bbls. for the first eight months of the year, against 24,152,000 bbls. in the comparable period last year. Stocks on hand August 31 were 8,992,000 bbls., against 8,694,000 bbls. August 31, 1927. Refiners in this area are not inclined to book far ahead at the 9-cent level for water white in tank car lots, and comment on the part of some sellers indicates that a 9½-cent market is looked for by the end of the month or early in November. More export inquiries are reaching the market, and this is expected to be followed by a heavy buying movement.

Paraffin

Sharply divergent price views have developed in the wax market this week, with conflicting views regarding the actual condition of the market. Large operators contend that the market is in strong position, and discount reports of price shading by refiners. Other factors report just the opposite, and point to confirmed sales as proof of a weakening market.

The wax situation at New York for some months past has been dominated to a considerable extent by a number of leading buyers who have been long on stocks. These operators early in the spring anticipated the heavy demand which later developed, and entered the market in a large way, covering ahead for six months. The market went as expected, and showed a steady advance over the spring and summer season. Late in September, however, the market reached the resistance point, particularly on crude scale, and prices weakened under the influence of falling demand. Since that time a soft tendency has developed, with business of light proportions.

Refiners have been busy this week interrogating their New York connections as to the actual status of the wax market here, and in consequence there has been more selling by refiners. Many refiners, who had been withholding wax from the market in anticipation of a continued advance, are reported booking prompt shipment wax this week at current going prices, in the belief that peak has been reached and passed.

A number of operators who have been short on wax during the past several months, and who reputedly were making cash settlements at the end of each month in lieu of actual deliveries of wax sold, are expected to come into the market on any appreciable decline and buy prompt wax to take care of contract requirements.

Statistically, the position of the wax market does not appear to justify any radical lowering of quotations, assuming that consumption holds at recent levels. Stocks in the hands of the refiners are by no means excessive, holdings of United States refiners as of August 1 amounting to 79,136,000 pounds, as compared with 84,476,000 pounds at the end of the previous month and 180,645,000 pounds on hand August 31 last year. Thus, stocks August 31 were less than half of those on hand on the same date last year, the reduction being due both to larger domestic consumption and exports. August production was 54,084,000 pounds, as compared with 45,273,000 pounds in the previous month. Production for the first eight months of 1928 was 413,983,000 pounds, against 384,798,000 pounds in the comparable months last year. Exports for the first eight years amounted to 287,173,000 pounds, against 216,496,000 pounds in the same months in 1927. Domestic consumption was also sharply higher at 214,118,000 pounds, against 184,485,000 pounds in the corresponding period last year.

Petrolatum

The petrolatum market has undergone no important modification during the week. A good volume of buying for prompt shipment was reported, and sellers reported no difficulty in maintaining the price basis on the higher grades. On dark green, the market continued quoted at 2 cents per pound, but export operators were reported in position to buy at 1.90 cents. Domestic consumers have been in the market in hand-to-mouth volume for the past few months, and in consequence are not believed to be carrying the usual reserve stocks at their plants. Refiners have been showing firmer price views on both snow white and lily white since the first of the month, but thus far no actual price increases have developed. Sellers are also talking a stronger market basis on cream and amber grades, reporting that refiners are reluctant to book much additional business on the current price basis. Stocks in the hands of eastern refiners are reported to be considerably smaller than was the case a year ago, although no definite statistics covering holdings of refiners in this area are available.

Diesel Oil

Volume of business on Diesel oil has held up well during the week, with the market in steady position. Refiners continue to quote at $2 per barrel, bulk, at refinery terminal Bayonne, the same quotation holding at other Atlantic ports, with the exception of Sewell Point, Norfolk, Va., where the price is $2.20. There is a steady broadening of consumption of Diesel oil at Atlantic ports, and current reports in shipping circles indicate the continued popularity of Diesel-electric drive. A number of new motorships are now under construction for service in the transatlantic trade, and a large vessel is reported planned for service in the intercoastal trade. A number of Shipping Board vessels are now undergoing conversion from steam to Diesel-electric power. The Diesel oil market is firmly in hand at Atlantic Coast ports, and is not subject to the same competitive selling conditions experienced by bunker "C" fuel oil. Production of Diesel oil is closely controlled, and refiners have thus far been successful in balancing their production with current consumption, thus avoiding the accumulation of any burdensome excess stocks which might depress the market.

Lubricating Oil

There has been little change in the lub situation this week. Refiners have not altered their price views, and the jobbing market here has held at the same levels prevailing last week. There has been a slight gain in demand on the part of blenders and compounders in this market, but the volume of buying has not run into large totals. Export operators are evidently covered on their current requirements, and most of the business booked this week has involved small quantities for prompt and near-by delivery. Buyers are still rather bearish in their price views, and current bids are from one-half to 1 cent a gallon under the spot market. Refiners, however, show no inclination to cut the market and in most instances are rejecting the lower bids offered them. Refinery holdings of lubricating oils are by no means excessive. Some improvement in the demand for industrial lubs has been apparent during the week, and refiners look for steadily expanding business in this quarter during the closing quarter of the year.

Marketing departments of refiners operating in the New York market are still getting a rather heavy demand for motor lubs in 1 and 5-gallon cans, with prices holding firm.

Domestic consumption and exports as well are running ahead of last year. Home consumption for the first eight months of the year was 15,586,000 bbls., as against 14,502,000 bbls. in the corresponding months of 1927, while exports amounted to 7,705,000 bbls., against 6,493,000 bbls. Stocks on hand August 31 totaled 7,711,000 bbls., against 7,491,000 bbls. on hand on the same date last year. Domestic production for the first eight months of 1928 was 23,135,000 bbls., against 20,904,000 bbls. in the corresponding months last year.

Fuel Oil

Bunker "C" remains unchanged at $1.05 a barrel, bulk, refinery terminals, with a steady demand reported. Although the large steamship companies are covered by contract on their current requirements, there has been a good deal of spot buying by consumers who prefer to operate spot rather than to place term contracts. Industrial consumption is on the increase, but has not shown sufficient volume to enhance market values.

The statistical position of the market shows no improvement; on the contrary, the topheaviness of stocks is more accentuated. The latest report of the Bureau of Mines shows holdings of 134,818,000 bbls. of gas and fuel oils at domestic refineries, this figure including California heavy crude as well as fuel oil, and representing a gain of 1,745,000 bbls. for the month. Production for the first eight months of the year amounted to 276,718,000 bbls., against 260,060,000 bbls. in the corresponding months last year. Ex-

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Pennsylvania Crude Demand Increases

Activities of Association and Individual Refiners in Promoting Sale of Pennsylvania Lubricants Reflected in Raw Material Market

By C. O. Willson

OIL CITY, Pa., Oct. 8.—The combination of group and individual sales activity is resulting in a steady increase in the demand for Pennsylvania lubricating oils and the crude oil from which they are obtained.

Manufacturers of other grades of lubricating oils have been aware of the spreading competition of the Pennsylvania products for some time and producers of crude oil in all parts of the country during the past year have witnessed substantial advances in the posted schedules for Pennsylvania crudes while they have been forced to be satisfied with minor increases or none at all. Representative producers, refiners and distributors in this territory are authority for the statement that two factors are contributing to the favorable market situation applying to both the raw material and finished products. The first of these is the five-year activity of the Pennsylvania Grade Crude Oil Association and the second applies to the sales campaigns of a number of refining and marketing organizations some of which are now selling Pennsylvania lubricating oils on a national scale. The efforts of both the association and individual concerns have been backed by national advertising.

The combined efforts obviously have been successful in creating a consumer demand which this year has been quickly reflected in both the refinery and producers markets. Individual refiners are now planning for more extensive campaigns another year so that the refiners and distributors of lubricating oils not made from Pennsylvania crude oil can rest assured that the competition of "Guaranteed 100 Per Cent Pure Pennsylvania Oil"—the distinguishing trade name of the crude oil association—will become more keen another year.

It might be well to note at this point that there are those among the oil fraternity of this section who are not in sympathy with all phases of the program as has just been outlined. This applies particularly to some refinery operators who feel that all the advances in crude oil have not been justified and have worked a hardship on the manufacturer of Pennsylvania lubricating oils. The writer is not attempting to pass on the pro and con of this contention or any other differences of opinion which are usually found in any co-operative movement within the oil industry. This article is concerned only with an explanation of the work of those who were responsible for the inauguration of the program and who now feel that it is proving beneficial to a majority of those connected with the production, refining and distribution of Pennsylvania grade crude oils.

Association Activities

Many will recall that the Pennsylvania Grade Crude Oil Association was organized about five years ago with headquarter in this city. R. J. Alexander was appointed secretary of the association at that time and has since continued as the active head of the association's work. The purpose of the association was frankly announced at that time. The producers by collective action hoped to bring before the owners of motor vehicles and other users of oil what they claimed was the superior value of lubricating oils made from pure Pennsylvania grade crude oil. These oils are found only in western New York, western Pennsylvania, southeast Ohio and West Virginia.

In 1927 the production of these crude oils totaled 20,189,587 bbls. or about 55,000 bbls. daily. This was an increase of 5 per cent over the previous year, an increase which has been representative of the yearly change since 1925.

Producers of these crude oils for several years had been feeling the competition of the constantly mounting supply of western crude oils. In the early development of the western fields a wide differential was maintained between the Pennsylvania crudes and the newer supply. However, as pipe line and water transportation of these western crudes was perfected, this differential gradually narrowed until it was feared that there would come a time when prices would be on a parity.

Eastern Producers' Dilemma

The eastern producers felt that such a condition would force him out of business. With his small production averaging only a fraction of a barrel per day per well he could not hope to compete with the western producer where the flush production of a well is often measured in thousands of barrels daily with a settled production several times greater than that obtained in the eastern fields.

The net result of this situation was the organization of the association in the fall of 1925. A campaign was agreed upon in which the 25 per cent fraction of Pennsylvania grade crude oil containing viscous lubricants was to carry all of the burden of the claim that Pennsylvania crudes were worth more than those obtained from western crude oil. No superiority is claimed for the gasoline, kerosene and other products obtained from the Pennsylvania crudes. Gasoline obtained from Pennsylvania crude oil in fact has suffered during the past three or four years due to the strong demand for motor fuels high in antiknock value. It is conceded that Pennsylvania gasoline obtained from a paraffin base crude oil in a skimming or cracking operation does not equal in this respect a motor fuel obtained from asphaltic, naphthene or mixed based crudes of the western fields.

It is claimed that the 30 to 40 per cent constituting the heavy fraction of the Pennsylvania crude oil produces around 25 per cent of finished lubricants of various grades which cannot be duplicated with any other crude oil. This contention has been stressed in all advertising.

The association has carried on its work with a modest yearly appropriation. The quantity of production is relatively small and it was thought unwise to attempt any large scale operation which would entail heavy assessments for the members of the association. Income is now derived on a basis of 1 cent a barrel for the producer member and the same assessment for each barrel refined from the refinery members.

National Advertising

The national advertising appropriation for the past year totaled $90,000, distributed among three widely known publications with a circulation among the actual consumers of motor oils. The response to this advertising from the first has been greater than expected, according to association officials. A refinery member said one reason that the campaign had been "put over" without a large expenditure had been due to the fact that the Pennsylvania motor oils, as the oldest and for a time the only source of supply, were already widely known by the users. With this situation existing, the response to the association's advertising appeal was quickly noted. Consumer interest was reflected in inquiries from the oil dealers and these in turn have been turned over to the refiners or marketers of the Pennsylvania lubricating oils.

Prevent Substitution

The association has regulations in which every effort is made to prevent an unwarranted use of its name. The control over the dealers and marketers of the Pennsylvania lubricating oils largely lies with the refinery members of the association. Dealers and marketers become associate members of the association without the payment of any dues on the recommendation of refinery members followed by an investigation conducted by the association headquarters. These dealers generally market their products under their own trade name or that of the refinery or marketer from which they secure their supplies. The dealers, if they are accepted as associate members, can then display the association emblem of "Guaranteed 100 Per Cent Pure Pennsylvania Oil." This emblem is not a guarantee as to the exact specifications of the motor oils sold by the dealer except that they must be made exclusively from pure Pennsylvania grade crude oil. The only rule in regard to specifications that the association has at the present time is that nonviscous and nonfiltered cylinder stocks cannot be used in the manufacture of the finished product.

Before a permit is issued to an associate member recommended by a refinery member, the association makes a careful investigation. The prospective member is asked to answer a questionnaire covering several phases of his business activities with special reference to his plans for the marketing of all lubricants, including the specifications of the oils he expects to offer to the trade. The association investigates any alleged violations of the rules governing the use of its permit and has the authority to withdraw the permit if deemed necessary.

In case the application is acted upon favorably, a permit is issued subject to the following conditions:

"1. Applicant is, and shall continue to be, during the period of exercising this permit, an association member in good standing.

"2. Products manufactured only from 100 per cent pure Pennsylvania grade crude oil shall be sold in any container on which the association emblem is displayed.

"3. The association emblem may be displayed on packages containing special industrial oil compounded with animal fats or vegetable oil providing the mineral content thereof is manufactured from pure Pennsylvania grade crude oil.

"4. The association emblem shall not, under any conditions, be used in any manner on any shipping or other container, except tank cars, the contents of which is of inferior quality, not suited to the purpose for which same is sold and may not render safe, efficient service for at least 1,000 miles without draining the crankcase.

"5. The association slogan, "The Highest Grade Oil in the World," shall not be used with the emblem on any shipping or other container, except tank cars, but shall always be used where practicable in all other advertising display.

"6. The permit number under which this permit is issued shall, where practicable, be displayed with the emblem on containers and in all forms of advertising.

"7. The board of directors of this association may withdraw the use of this permit upon proof of violation of any of these terms and conditions.

"8. The board of directors of this association may amend or supplement the terms and conditions of this permit as circumstances may require."

As an extra caution against substitution the association now requires a $1,000 bond from associate members as a guarantee of good faith. Dealers and brokers in emergency conditions are permitted to buy from nonmembers of the association. This is subject to the requirement that the refiner selling the oils furnishes a written statement guaranteeing that the oils were manufactured from the pure Pennsylvania grade crude oil. Obviously, the association cannot keep refiners who are not members of the association from manufacturing lubricating oils made from Pennsylvania crude oil and then selling them as such. This is being done in several instances. Two cases are cited in which refiners are now offering a pure Pennsylvania lubricating oil, although the bulk of their lub oil production comes from other crudes. These refiners buy some Pennsylvania crude oil, but until the demand for the Pennsylvania lubricants increased they did not segregate this product from that obtained from other crude oils. Now the Pennsylvania crude oil is transported and processed separately and offered to the trade as a 100 per cent product.

The association is protected in its campaign in that no finished lubricating oil can be sold as a pure Pennsylvania product unless it is refined exclusively from crude oils produced in the fields previously mentioned. Any blending with other oils is a violation of this rule, although it does not prevent the use of the word Pennsylvania in the brand name such as "Pennsylvania base" oils.

Individual Refiners

The second factor in the increased demand for Pennsylvania lubricating oils as previously stated has been the sales promotion work of individual refiners. Whether this is the cause or the effect of the association's work is immaterial. The marketing fraternity of the oil industry, at least generally, is aware that several new brands of Pennsylvania lubricating oils are available in all parts of the country. Originally several of these oils were sold only in this particular section. Now such brands as Pennzoil manufactured by the Pennzoil Co. and Quaker State of the Quaker State Refining Co., both with headquarters in this city, are available on a national scale with a large foreign distribution. In addition, it is known there are at least two additional refiners in this State who expect to offer their lubricating oils nationally within the next few months.

In addition to these nationally marketed oils, several refiners have enlarged their local distribution so that it now covers a wide section of the country. They are not at this time contemplating national distribution, but will gradually widen their marketing areas.

These expansion programs of the individual refiners and marketers have dovetailed in with the work of the crude oil association. From the standpoint of expenditure for advertising, those of the individual companies have far exceeded that of the association. One concern is said to have a yearly budget of $600,000 for advertising.

These refiners and distributors expect a much larger consumption of their oils another year. They have spent time and money in perfecting their sales organization, appointing dealers and introducing their product to the consuming public. They are now in a position to "cash in" on this work with enlarged sales.

There are at present 31 refinery members of the association. On a basis of their recommendation there are now over 600 associate or affiliated members coming from the jobbing and dealer trade.

In order to supply the increased demand for their oils it has been necessary for some of the refiners to enlarge their plant operations. This has naturally tightened the demand for crude oil and

in that sense is responsible for the advances in prices. The credit balance method of handling crude oil purchases and the limited supply available naturally tends to make the Pennsylvania crude oil market more sensitive to changes in demand than in the case of the western crudes.

Price Increases

The posted schedules of Pennsylvania crude oils have been advanced several times during the past year, the increases exceeding those made in any other area. The following table gives the prices in effect October 1, 1928, and 1927 on the six posted grades which constitute the Pennsylvania grade crude oils.

	1928	1927
Penn. grade oil in New York Transit lines (New York) ...	$3.35	$2.65
Bradford district oil in National Transit lines (Penn.)	3.35	2.65
Penn. grade oil in National Transit lines (Penn.)	3.25	2.55
Penn. grade oil in S. W. Penn. lines (W. Va.)	3.25	2.55
Penn. grade oil in Eureka Pipe Line (W. Va.)	3.15	2.50
Penn. grade oil in Buckeye Pipe Line (Ohio)	3.00	2.35

The variation in prices for some of the grades is due both to a difference in gravity and the content of lubricating oils stocks. The prices now in effect in Pennsylvania compare with a schedule of $1.36 for 36 gravity crude and $1.56 for 40 gravity crude in the Mid-Continent Field. A year ago in the Mid-Continent the 36 gravity grade was bringing $1.28 and the 40 gravity $1.36. There are several grades of crude oil produced in the eastern fields, such as Corning and Cabell, which do not come up to the specifications of Pennsylvania grade crude oils, and they have much lower price schedules.

GASOLINE CONSUMPTION LARGE FOR THE SEASON

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flash, clean and strictly sweet is being held by some of the few producers of this unblended oil at better than 3 cents at the refinery.

Grading Fuel Oils

The fuel oils are gradually being sorted out into various grades as well as gravities. The best from point of price are those low in sulphur with a low pour test and a low viscosity. The quantity of these that is available is not large. At the other extreme is the oil that is low in gravity, high in sulphur often with a low pour test. It is said of some of the West Texas fuel oils which are high in sulphur but have a low pour test that they are often much more clean or free from heavy products such as free carbon, than much of the residual oil from the cracking stills of the Oklahoma refineries. In fact there is a growing prejudice against these oils from the cracking stills where the fuel qualities have apparently been sacrificed to secure as high a yield of the lighter products as possible. Some oil users term this grade a locomotive oil and say that is all it is fit for.

Sellers of the West Texas product claim for their oil that if it is wanted for a purpose where the odor need not be any real objection, it is a better oil, cleaner and richer in heat units than the heavy fuel oil from the cracking plants. Naturally the day is gone when a quotation will represent the market if based on gravity alone.

Sales of quantities of 18-22 gravity fuel oil were made last week at 47½ cents and as high as 62½ cents according to grade. Of course the quantity sold at the lower price was much greater. Clean, zero, low viscosity but high sulphur oils sold freely at 50 cents and the same quality of fuel oil only with a sulphur content of less than three-fourths of 1 per cent sold at 57½ to 60 cents readily.

The first-of-the-month orders had been placed by the middle of last week and there was something of a lull in the demand. Representatives of several of the West Texas plants were in the market apparently wanting orders for fuel oil although they claimed to be under no immediate pressure.

A new rate has been published from Pecos, Pyote, and Big Spring, Tex., to various northern points, including the Chicago district which nearly cuts the present differential over Group 3 rate in half. This new tariff goes into effect on November 12. After that date the rates will be to the Chicago terminal district; from Pyote and Pecos, 33 cents on fuel oil and 41½ cents on refined oil; from Big Spring, 32 cents on fuel oil and 40 cents on refined oil, all per hundredweight. Incidentally there was another freight rate matter up last week in this city. A hearing was held before an examiner for the Interstate Commerce Commission, to consider objections filed to a proposed lower rate from Casper, Wyo., to this city. The examiner will report later to the Interstate Commerce Commission.

Fuel oil is now being sold on such narrow margins that these reductions in freight charges will have an important bearing on the source of supplies of this material. The industrial outlook continues good as a whole.

Little Change in Lubricating Oils

There is little change in lubricating oils. Bright stocks and cylinder stocks were steadily held and the movement was good. Neutrals were rather uneven in tone. The demand for motor oils was active although dealers are buying for immediate needs. The demand for factory lubs was good.

The first week under the new Q.D.A. was uneventful. In some small places the cutting of prices resulted in the immediate reduction of the service station price. An example was at Centerville, Iowa, where the service station price was reduced from 20½ cents to 17½ cents leaving the tank wagon price unchanged at 18½ cents. Some contracts were canceled for infraction of the new scale and generally a tight rein was held on all representatives of the larger companies. The major distributors have ceased to make any of the contracts with owners of stations to handle their goods either on the lease or the commission basis. The former are frequently referred to as the P.D.I. and the latter as the Triple A contracts. It is understood that later some kind of contract may be offered to these classes of dealers.

Locally there has been a lot of "bluffing" by the small dealers who claim that the new discounts do not permit them to make a living. Subscriptions were asked to employ an attorney to file injunction proceedings to prevent the major distributors from putting the new scale into effect, but the returns were too meager to justify the employment of an attorney according to one report. Another is that no attorney could find any legal remedy that would fit the situation. So the new Q.D.A. went into effect without legal hindrance and the present question with these dealers is to find some source of supply that will allow them a higher rate of discount.

The old scheme of telling one seller that another has made a cut in price no longer results as it did in former years. Now the two companies get in touch and the facts are made plain to each. Then the one responsible for the report is advised to tell a better one next time. The companies are standing back of the new Q.D.A. with a uniformity never known before in local oil records.

EASTERN GASOLINE MARKET WEAKENING

(Continued from Page 149)

ports fell off during the period, at 31,306,000 bbls. for the eight months ended August 31, as compared with 32,064,000 bbls. during the comparable period last year.

Gas Oil

Refiners show firm views on gas oil and report a better demand for prompt shipment oil. The market is established at 5¼ cents a gallon by the leading seller, with some refiners quoting 5 cents on spot business. Contract movement to the large gas companies continues heavy. Low test cracked stock is moving out in good volume on furnace oil contracts, the season for this business just getting into its swing. Movement of California gas oil eastward is expected to slacken, the demand for this oil for cracking stock having fallen away with the end of the summer motoring season and the advent of the easier gasoline market. Refiners are counting on the increased demand for furnace oils this season to aid them in cutting down the heavy reserve supplies of fuel oil, and to keep current gas oil production moving into consumption. Judging from reports regarding the number of new installations in this territory, the expectations of the refiners will be realized, in the event that current production figures at East Coast refineries do not go much higher.

California Oil Receipts

Receipts of California crude and refined oils at Atlantic and Gulf Coast ports for the week ended September 29 totaled 533,000 bbls., a daily average of 76,143 bbls., against 932,000 bbls., a daily average of 133,143 bbls. for the week ended September 22 and a daily average of 80,321 bbls. for the four weeks ended September 29.

	(Bbls. of 42 gals.)
At Atlantic Coast Ports—	
New York	237,000
Philadelphia	296,000
Total	533,000
Daily average	76,143
Total Atlantic and Gulf Coast ports	533,000
Daily average	76,143
Daily average four weeks ended	80,321

Distribution of total California oil receipts is as follows:

Gasoline	441,000
Kerosene	78,000
Lubricants	14,000
Total	533,000

Imports

Imports of crude and refined oils at the principal United States ports for the week ended September 29 totaled 2,247,000 bbls, a daily average of 321,000 bbls., compared with 1,286 000 bbls., a daily average of 183,714 bbls. for the week ended September 22 and a daily average of 252,929 bbls. for the fours weeks ended September 29.

	(Bbls. of 42 gals.)
At Atlantic Coast Ports—	
Baltimore	164,000
New York	1,378,000
Philadelphia	210,000
Others	70,000
Total	1,822,000
Daily average	260,286
At Gulf Coast Ports—	
New Orleans and Baton Rouge	425,000
Total	425,000
Daily average	60,714
At All United States Ports—	
Total	2,247,000
Daily average	321,000
Daily average four weeks ended	252,929

Included in the week's imports of crude oil at New York were the following shipments:

To Tide Water Oil Co., 94,600 bbls. on the Axtell J. Byles from Las Piedras.

To Standard Oil Co. of New Jersey, 75,000 bbls. on the Malabar from Tampico, 79,000 bbls. on the Hoxbar from Mamomal, 71,000 bbls. on the Josiah Macy from Mamomal, and 75,000 bbls. on the Ardmore from Tampico.

To Mexican Atlas Petroleum Co., 50,000 bbls. on the Vaba from Tampico.

To Gulf Refining Co., 100,000 bbls. on the Gulfhawk from Las Piedras, 115,500 bbls. on the Gulfbird from Las Piedras, and 75,000 bbls. on the Gulfpoint from Las Piedras.

To Pan American Petroleum & Transport Co., 41,500 bbls. on the Herbert C. Wylie from Aruba, 68,700 bbls. on the Mendocino from Aruba, 92,300 bbls. on the Cerro Azul from Aruba, and 87,675 bbls. on the R. W. Stewart from Aruba.

To Anglo-Mexican Petroleum Co., 55,625 bbls. on the Au Dunstano from Curacao, and 47,000 bbls. on the San Antonio from Curacao.

To The Texas Company, 30,000 bbls. on the Louisiana from Tampico.

To Asiatic Petroleum Co., 61,500 bbls. on the Caloric from Curacao, 48,750 bbls. on the Romulus from Curacao.

Export Markets

Export gasoline prices are off this week, and trade is rather slow. Business is reported in Navy at 11½ cents a gallon, with buyers bidding a quarter to a half-cent under this figure. The price on the cased product holds at 26.90 cents a gallon. Aviation naphtha, 66-68 degrees, was reported sold during the week at 16 cents, a quarter under previous quotations, while 64-66 naphtha for export was moved at 13½ cents, likewise a quarter cent under previous levels. Navy at the Gulf was a half cent lower at 9½ cents a gallon. Sales of 64-66 375 endpoint were reported at 11¼ cents, three-eighths under the asking price of the previous week.

Kerosene for export has been moving well, and is firm. The cased product holds at 17.40 cents for standard white and 18.65 cents for water white. Bulk kerosene is quoted at 7¾ cents for prime white and a cent higher on water white, Bayonne, with the Gulf market 6¾ and 7¾ cents, respectively. There is something in the nature of a shortage in spot kerosene, and it is expected that the market will work into higher position if demand holds at the current rate.

Lubs have moved in spotty fashion to the export trade this week, and continued quiet is looked for in the event that the market holds at present levels. Buyers have been looking for concessions, and with no marked shading available, have been holding down purchases to small quantities.

Paraffin wax export inquiry has also been lagging during the week. Buyers are underbidding the market, but have not yet succeeded in bringing out large stocks at concessions. Petrolatum has been routine throughout the week, and the same condition has applied to gas and fuel oils in export channels.

Petroleum Exports

The following table shows principal exports of petroleum and refined petroleum products from New York during the past three weeks (all figures in gallons unless otherwise noted):

	Week ended		
	Sept. 28	Sept. 21	Sept. 14
Gasoline	688,000	490,000	239,000
Naphtha	3,304,200	5,374,500	1,329,000
Kerosene	2,215,900	2,000	538,500
Fuel oil	34,000	41,500	68,000
Lubricating oil	1,294,200	2,953,900	1,205,000
Petroleum, ref'd.	2,227,700	3,712,900	1,483,000
	Pounds		
Petrolatum	54,000	53,500	22,300
Paraffin wax	732,700	3,534,300	1,439,500
Refined	278,300	.....	28,600
Scale	103,600	.....	.....
Lubricat'g grease	875,900	2,110,500	814,200

Among the larger shipments reported during the week ended September 28 as clearing from New York were the following: Naphtha, 2,659,200 gallons on the Saranac for Hull; 545,000 gallons on the Tamarac for Barrow, and 100,000 gallons on the Bernini for Montevidio. Gasoline, 200,000 gallons on the Oakspring for Montevideo; 184,000 gallons on the same steamer for Rosario. Lubricating grease, 61,200 pounds on the Wilscox for Buenos Aires; 349,000 pounds on the Ala for Antwerp; 101,000 pounds on the Agmistar for Tampico; 65,830 pounds on the Minnekahda for London; 73,500 pounds on the Providence for Marseilles. Kerosene, 200,000 gallons on the Oakspring for Montevideo; 50,000 gallons, same steamer, for Rosario; 555,000 gallons on the Tamarac for Barrow; 835,000 gallons on the same steamer for Bowling, and 387,600 gallons on the Saranac for Hull. Lubricating oils, 145,400 gallons on the Minnekahda for London; 102,100 gallons on the River Delaware for Alexandria; 127,300 gallons on the Providence for Toulon; 44,500 gallons on the Gourko for Newcastle; 45,350 gallons on the Cabo Villano for Bilboa; 31,500 gallons on the Minnekahda for London; 35,750 gallons on the Manuel Arnus for Sevilla; 33,900 gallons on the Wilscox for Buenos Aires; 52,825 gallons on the Boswell for Bahia Blanca; 30,250 gallons on the Calypso for Curacao; 27,725 gallons on the Carinthia for Liverpool; 34,000 gallons on the Cid for Callao; 37,250 gallons on the Jalapa for Bombay, and 29,400 gallons on the Dakarian for Manchester. Petroleum, refined, 1,443,600 gallons on the Saranac for Hull; 370,000 gallons on the River Delaware for Beirut or Tripoli or Alexandria; 124,000 gallons on the Swinburne for South American ports; 92,000 gallons on the Bernini for Rio de Janeiro and 80,000 gallons on the same steamer for Santos. Paraffin wax, 72,000 pounds on the Minnekahda for London; 314,650 pounds on the Siarco for Geonoa; 197,-

350 pounds, same steamer, for Naples; 278,350 pounds on the Wilscox for Buenos Aires, and 90,125 pounds on the Transylvania for Glasgow.

Charters

The market continues quiet, with low rates still prevalent, and little demand for the Coastal trade. Among recent charters of general interest were the following: Motorship Mittlemeer, 8,735 tons, refined and/or motor spirit, Gulf to Rio de Janeiro, October-November, at 14s. 9d.; S. S. Leeds City, Gulf to one to five North China ports, basis 25 cents a case, plus one-half cent extra for each additional port, October loading 200,000 cases; S. S. Trimountain, 9,100 tons, crude or fuel oil, California to North of Hatteras, 50 cents a barrel, October loading; Motorship Woensdrecht, 6,600 tons, refined and/or motor spirit, 27s. California, option 17s. 3d. Tampico, option 16s. 6d. Gulf to Rouen and Villequier, October-November loading; Motorship Markland, 9,000 tons, refined and/or motor spirit, Gulf to South Spain, 15s., October loading; S. S. Helen Vinmont, 15,050 tons, fuel and/or crude oil, 15s., California to Chile; S. S. Lightbourne, 9,385 tons, refined and/or motor spirit, 28c., Gulf to North of Hatteras; S. S. Lustrous, 9,000 tons, refined and/or motor spirit, 11s. 6d. North of Hatteras, option 14s. 6d. Gulf, to United Kingdom-Continent, October loading.

ROCKY MOUNTAIN AREA

(Continued from Page 57)

3,456 feet and at 3,635 feet was flowing 75 bbls. per day, and its No. 6 Sonners, NW cor., Section 8, cemented the 6⅝-inch at 3,269 feet. It topped the Embar at 3,245 feet. The Cody Petroleum Co.'s No. 5 Klindt, NE cor., Section 7-51-100, is drilling at 2,780 feet, and its No. 6 Klindt, NE NE, Section 7-51-100, is drilling at 680 feet. The Big Horn Petroleum Co.'s No. 1 Hoodoo, SE SE, Section 36-51-101, is running 6⅝-inch casing at 3,900 feet. The Lenco Petroleum Co.'s No. 1 Lyle, SE cor., Section 24-51-101, is drilling out cement. The 4¾-inch was cemented at 4,475 feet. This well had hot sulphur water in a section of the Embar below which it ran into a show of oil and is the deepest well in the field. The Cody Petroleum Co.'s No. 1 Gardner, SW cor. NE, Section 27-51-101, is drilling at 1,845 feet, and the Texas-Montana Producing Co.'s No 1 Libby, SE cor. SW, Section 17-51-101, is drilling at 250 feet. The Enalpac Oil & Gas Co.'s No. 2 Cactus, SE cor., Section 6-51-100, has rig up, and the Wyoming Western Oil Co.'s No. 2, Section 19-51-100, has a heavy flow of water at 1,090 feet. It will be saved as a water well for drilling purposes at present. The Big Horn Petroleum Co.'s No. 1 Trumbull, SW NE, Section 7-51-100, is changing over to rotary at 1,100 feet. The Wyoming Western Oil Co.'s No. 3, Section 18-51-100, is drilling at 1,387 feet. The Wisconsin Holding Co. has a crooked hole at 250 feet in its No. 2 Rousch, Section 9-51-100.

Park County

In Park County outside of Oregon Basin, the California Exploration Co.'s No. 1-A, NE NE NW, Section 29-48-103, on the Fourbear structure, is dry and abandoned at 3,765 feet. The rig on this well was skidded 400 feet from No. 1 which had 1,200 feet of black oil in the hole from the Amsden sand at 3,265 feet. The Producers & Refiners Corp. has rig completed and is moving in tools for a test on the Frannie structure, 3 miles south of the Rosenberg discovery well. This is considered a separate structure and is known as the South Frannie Dome. The Oregon-Wyoming Oil & Gas Co.'s No. 1, NE SW, Section 30-52-101, Horse Center Dome, is drilling at 275 feet. The California Exploration Co.'s No. 1 Pitchfork, Section 14-48-102, joint with the Producers & Refiners Corp., is bottomed at 1,276 feet and has recovered the 15½-inch swedge. The Ohio Oil Co.'s No. 1 Pulley, Section 27-52-101, on the Shoshone anticline near Cody, is running 4¾-inch casing at 4,520 feet. The hole is bottomed in the top of the Embar and has a good showing of oil.

One completion was reported in Salt Creek, this being the Wyoming Associated Oil Co.'s No. 24-LS, NW Section 35-40-79, in the Lakota shale at 1,872 feet with an initial production of 209 bbls.

The Foreman Oil Co.'s No. 1 Lingle, Section 24-26-62, in Goshen County, which has been standing for more than a year, has been abandoned at a total depth of 5,040 feet.

In Hot Springs County, the Texas Production Co. is starting a test on the Skelton Dome. The light oil horizon in the Grass Creek Field will be the objective and is expected at 2,400 feet. The rig has been completed in the NE NW SW, Section 23-45-100.

In Big Horn County, the Ohio Oil Co.'s No. 2 Gross Gas, NE cor., Section 33-56-97, on the Byron Dome, has been shut in at 3,430 feet with an open flow of 55,000,000 feet of gas. This well was completed as a 40,000,000-foot gas well in 1926 at 3,163 feet in the Embar. Recently it was decided to drill on down. It will be shut in for the winter and probably drilled deeper next spring. The gas was taken off for a few days through a 300-foot pipe and allowed to burn on account of the sulphurated hydrogen in it. Same company's No. 1 Colony, Lot 57, on this dome, is being deepened from 1,868 feet and is drilling at 2,035 feet. The Producers & Refiners' No. 3 Government, Section 24-56-98, on the Garland Dome, joint with the Kinney-Coastal Oil Co., is bottomed at 2,708 feet and cleaning out at 2,596 feet. It has not made much progress for some time due to the bentonite coming into the hole and swelling when making contact with water. A rotary may be substituted in an effort to get through the troublesome horizon.

The Utah Southern Oil Co.'s No. 3 Government, Section 29-56-97, Garland Dome, is drilling at 3,763 feet and continues to show oil colors. The Producers & Refiners Corp. is starting another well in the Torchlight Pool near Basin in its No. 40, Section 24-51-93, and has moved in machine.

In Sweetwater County in the southwestern part of the State, the Ohio Oil Co.'s No. 2 Posen, NW NW, Section 22-16-104, on the south central Baxter Basin structure, has an open flow of 10,000,000 feet of gas in the first Frontier sand and after lubricating has set the 8¼-inch casing at 2,385 feet. The Producers & Refiners' No. 1, Section 26-20-104, on the North Baxter Basin structure, joint with the Marland Production Co., topped the Dakota at 3,417 feet and is bottomed at 3,420 feet with the 8¼-inch at 3 356 feet and preparing to lubricate. It has considerable gas in the horizon, but volume cannot be determined until water in the upper Dakota is shut off. It had a show of oil in the upper Dakota at 3,250 feet followed by water. The gas will be bradenheaded off and drilling continued.

In Carbon County, the Producers & Refiners' No. 1, Section 14-25-89, on the Sherrard Dome, is bottomed at 2,082 feet in a gray sand which is making 22,000 bbls. of water per day. Same company's No. 24, Section 26-26-87, on the Ferris Dome, a test of the Pennsylvanian formation, was drilled to 4 623 feet. It had water in the hole at 4,550 feet and has been plugged back to 3,500 feet. It had some gas at 2,755, 2,780 and 2,800 feet in horizons above the red beds. Same company's No. 7, Section 7 23-89, on the Wertz Dome, is drilling at 2,950 feet in green shale, and its No. 8, same section, is bottomed at 3,718 feet and washing over the 6-inch drill pipe. The same company's No. 3, Section 2-19-88, on the Hatfield Dome, is cleaning out on bottom at 4,003 feet. The 6¼-inch was cemented at 3,904 feet. This well was temporarily completed as a small gasser at 3,956 feet a year ago. The gas was in the Dakota. It will be deepened to test the Sundance.

Montana

Three wildcats in central Montana are nearing the sands and are interesting. The second test of the Trench Oil Co. in the west extension of the Cat Creek Field is checking 70 feet higher than the first well that came in a duster. This fact makes this well look like a chance to open a new pool on the west side. The first well recently completed by the company found showings of oil in both the first and second Kootenai sands, but neither was of commercial size, now it is thought the first well was too close to a fault plane and the second test is to test this theory.

The Lone Star Oil Co. is drilling a well on the outskirts of Great Falls and is now down to 700 feet with the Kootenai sands expected about 1,500 feet. The well is on a general rise, coming down from the northwest, and a strike of oil in commercial quantities will start a wild drilling campaign around Great Falls city.

The Judith Basin Oil Co. is drilling a wildcat near Lewistown in Fergus County. This well is about 2 miles from Arrow Creek station and the bit is at 700 feet with the sands expected about 1,600 feet.

The wildcat drilling between the Pondera and Bannatyne Fields, Section 24-27-1, known as the Fedland Dome, came in a dry hole. The well was checking much lower structurally than either the wells in Bannatyne or the wells at Pondera and at 1,818 feet the bit opened a flow of sulphur water. This, on top of the evidence of the well being in a syncline from the geological horizons, caused the owners to abandon the well and plug. The capital was furnished by a local syndicate. Another well was drilled some time ago on the Midway structure between the two fields and is a dry hole also.

Bannatyne Field

In the Bannatyne Field, the Hardrock Oil Co. has hitched on the beam at 325 feet in Section 5-25-1 and the Fifty-Six Petroleum Co. has completed a rig for a new test as an offset to the Hardrock well. C. L. Archer and others have a rig going into a location on the same section and will endeavor to complete before cold weather sets in. The field now has nine producing wells.

In the Pondera Field, the field is running about 2,500 bbls. from the wells daily, but a large part of this oil is going into storage at the Texas & Pacific tank farm at Conrad. Only about 300 bbls. per day are being shipped out of Conrad to the refineries. This oil is coming from about 30 wells and two new ones were added to the list the past week. The oil is an excellent grade of paraffin base crude and Conrad is becoming an active little city due to the opening of the Pondera Field.

The Ohio Oil Co. on the Hirschberg found a producer good for 125 bbls. for its No. 3 well in Section 22-27-4. This well found the sand at 1,995 feet and bottomed at 2,018 feet. The McCracken Syndicate's No. 2 on the Gjullin lease, Section 10-27-4, reached the sand last Monday and was tested last Wednesday. It made 150 bbls. natural. The Rice Oil Co.'s well, No. 2 on the Copley lease, Section 15-27-4, was drilling in the sand at a late hour Saturday, and oil was rising in the hole. This is an assured producer, but its size is still undetermined. The Fulton Oil Co.'s No. 3 in Section 16-27-4 found the sand at 1,925 feet and drilled 3 feet in, getting a good well estimated at 200 bbls. besides a gas flow estimated at 3,500,000 feet.

At Sunburst a new pool seems to be opening. The Hibbing syndicate's well No. 6, on the Faunce lease, in Section 1-34-2, came in a gusher in the Ellis sand and is making around 600 bbls. daily. This is the same well reported last week

GULF COAST SHIPMENTS DECLINED 1,288,290 BARRELS DURING AUGUST

HOUSTON, Tex., Oct. 8.—A total of 17,297,463.30 bbls. of crude and refinery products were lifted out of Gulf Coast ports during August, according to a compilation just completed. This, however, was a decrease of 1,288,290.88 bbls. from water shipments of July.

Of the shipments, 14,222,219.56 bbls. were moved coastwise to Atlantic ports, and the remainder, 3,075,243.74 bbls., went to foreign countries. Shipments from refineries amounted to 9,964,570.49 bbls., against 7,332,892.81 bbls. of crude.

Shipments by companies and ports were:

REFINED PRODUCTS

Company and port—	Coastwise July	Coastwise August	Export July	Export August
Standard of Louisiana, Baton Rouge	989,667.00	739,300.00	791,220.00	1,039,330.00
The Texas Company, Port Arthur	1,669,951.00	1,466,804.00	475,231.00	303,211.00
Gulf Refining Co., Port Arthur	2,713,046.45	2,292,546.25	193,642.24	120,140.83
Magnolia Petroleum Co., Beaumont	1,593,203.88	785,971.80	*	*
Humble Oil & Refining Co., Baytown	1,288,331.74	1,070,604.76	1,735,753.45	1,315,803.15
Atlantic Oil Producing Co., Atreco	18,644.90	181,147.97	.....	.....
Pure Oil Co., Smiths Bluff	382,927.61	585,738.97	.....	3,971.76
Total	8,055,772.58	7,122,113.75	3,195,846.69	2,842,456.74

CRUDE

	Coastwise	Coastwise	Export	Export
Standard of Louisiana, Baton Rouge	519,759.00	846,924.00	.....	52,915.00
The Texas Company, Port Arthur	.....	71,842.00	24,420.00	.....
Gulf Refining Co., Port Arthur	310,884.65	235,466.64	.....	.....
Magnolia Petroleum Co., Beaumont	877,015.88	765,563.72	*	*
Humble Oil & Refining Co.—				
Texas City	762,684.00	743,183.00	26,656.00	40,549.00
Baytown	473,209.00	465,485.00	.....	.....
Ingleside	2,032,527.00	1,556,805.00	61,766.00	139,323.00
Neches	151,527.00	.....	.....	.....
Atlantic Oil Producing Co.—				
Atreco	542,871.24	637,512.86	.....	.....
Beaumont	564,717.93	326,852.56	.....	.....
Smiths Bluff	.....	34,541.19	.....	.....
Pure Oil Co., Smiths Bluff	444,540.21	566,568.84	.....	.....
Sun Oil Co., Sabine Pass	541,272.00	849,361.00	.....	.....
Total	7,221,352.91	7,100,105.81	112,782.00	232,787.00

*Magnolia Petroleum Co. makes no distinction in reports between coastwise and export shipments.

DOMESTIC EXPORTS OF PETROLEUM AND REFINED PRODUCTS

	Month of August 1927	Month of August 1928	8 months end. August 1927	8 months end. August 1928
Petroleum:				
Crude ..... Bbls.	1,382,014	1,882,792	10,009,752	12,223,981
Crude ..... $	2,600,317	2,770,944	16,827,288	17,050,640
Total refined petroleum ..Bbls.	10,928,549	9,903,419	77,247,608	86,412,677
Total refined petroleum .....$	35,465,538	38,986,280	297,986,721	307,809,810
Gasoline, naphtha and Bbls.	4,134,990	4,452,161	29,328,890	34,855,605
other light products .....$	17,458,750	20,942,650	150,085,489	149,076,492
Oils:				
Illuminating .....Bbls.	1,669,270	1,652,525	12,448,650	14,719,198
Illuminating .....$	6,105,743	6,922,071	53,033,311	61,885,540
Gas and fuel .....Bbls.	4,373,824	2,988,277	28,990,819	29,163,419
Gas and fuel .....$	4,555,676	3,335,761	34,396,410	32,508,533
Lubricating .....Bbls.	739,837	796,164	6,374,450	7,564,106
Lubricating .....$	7,190,048	7,625,336	59,163,612	62,973,192
Other refined petroleum ..Bbls.	10,628	14,292	104,799	110,349
Other refined petroleum .....$	155,321	160,462	1,307,899	1,366,053
Paraffin wax .....Lbs.	34,262,355	31,431,104	216,495,732	287,476,830
Paraffin wax .....$	1,429,964	1,430,272	10,127,198	11,569,332

as a new well in that part of the field. After the bridge was drilled out the well made 700 bbls. for the first day.

ROCKY MOUNTAIN PRODUCTION
Runs From Field Week Ended October 6

WYOMING	
Salt Creek	39,620
Big Muddy	2,740
Grass Creek	2,500
Elk Basin	1,040
Greybull	10
Rock River	2,710
Lance Creek	430
La Barge	670
Poison Spider	870
Hamilton Dome	...
Oregon Basin	4,370
Osage	510
Muddy Creek	710
Lander	320
Ferris	...
Byron	30
Lost Soldier	4,020
Simpson Ridge	80
Dutton Creek	50
Alkali Butte	200
Pilot Butte	280
Rex Lake	190
Total Wyoming	61,350
MONTANA	
Cat Creek	1,590
Lake Basin	530
Kevin-Sunburst	8,300
Pondera	280
Total Montana	10,700
COLORADO	
Florence	1,331
Moffat	1,282
Fort Collins	2,638
Iles Dome	1,384
Rangely	100
Tow Creek	520
Boulder	25
Total Colorado	7,280
NEW MEXICO	
Rattlesnake	388
Hogback	500
Artesia	1,065
Cap Rock	187
Table Mesa	233
Total New Mexico	2,373
Total Rocky Mountain	81,703

WEST TEXAS FIELDS

(Continued from Page 48)

but its average potential was almost half that figure. Proration gauges by companies, giving the number of wells, potential production, units, allowed production and percentage of the allowed each company has is given below.

Company—	No. wells	No. units	Average potential	Allowed production	Per cent of runs
California Co.	36	19	270,707	9,458	13.95
Cosby et al	1	1	35	128	.18
Dixie Oil Co.	1	1	25	128	.18
Grayburg Oil Co.	3	1	50	128	.18
Gulf Prod. Co.	32	21	284,917	10,105	13.94
Humble O. & R. Co.	14	10	30,752	2,071	2.86
Kirby Pet. Co.	1	1	76	129	.18
Kirby Pet. & Edson	1	1	472	139	.19
McMan O. & G. Co.	9	7.8	55,137	2,437	3.36
McMan & Marland	17	7	102,608	3,560	4.91
Marland Oil Co.	10	2	14,466	630	.87
Matador Oil Co.	1	1	4,908	255	.35
Mid-Kansas & Transcontinental	94	49.3	1,067,605	34,042	46.95
Oil Operators Trust	7	1	2,143	183	.25
Phillips Pet. Co.	1	1	125	130	.18
Red Bank Oil Co.	3	1	1,054	154	.21
Roxana Pet. Co.	20	11.4	77,434	3,532	4.87
Savoy & Mazda	3	1	2,443	191	.26
Simms Oil Co.	7	4	171,440	4,959	6.85
Skelly Oil Co.	1	1	150	131	.18
Grand totals	262	142.5	2,086,541	72,490	100.00

WEST TEXAS COMPLETIONS

Andrews County

Deep Rock Oil Co.'s No. 1 Harris, 1,320 feet south and east of NW cor. Section 12, Block A-46, had a rainbow show of oil at 4,210 feet, topped the pay at 4,405 feet, drilled to a total depth of 4,688 feet and dry and abandoned.

Fisher County

Texas Utility Oil Co.'s No. 1 Redus, 330 feet from south and west lines, Section 211, Block 1, B.B.B.&C. Survey, was dry and abandoned at 3,500 feet. Cranfill & Reynolds' No. 1 Willingham swabbed 258 bbls. the first 24 hours at 3,119-23 feet.

Jones County

Hurley Oil Co.'s No. 1 Gunther, 1,650 feet from east and 330 feet from north of SW cor. Section 34, Block 18, T.&P. R.R. Survey, was dry and abandoned at 3,022 feet. Pandem Oil Co.'s No. 1 Cox, 150 feet south and west of NE cor. Section 43, Block 14, T.&P. Survey, was dry and abandoned at 1,700 feet. Roberts Oil Co.'s No. 5 J. H. Grayson was dry and abandoned at 2,551 feet.

Howard County

Bristow & Merrick's No. 8 J. A. Hooks, Section 140, Block 29, made 125 bbls. at 1,826-1,923 feet. Coyle & Concord's No. 1 Dora Roberts, 330 feet from the north and 1,650 feet from west of Section 156, Block 29, W.&N.W. Survey, topped the lime at 2,170 feet, topped the pay at 2,953 feet, was drilled to a total depth of 3,010 feet and had an initial production of 1,930 bbls. F. H. E. Oil Co.'s No. 6-B D. Roberts, 2,360 feet from north and 330 feet from west of Section 137, Block 29, topped the pay at 1,290 feet, was drilled to a total depth of 1,390 feet and had an initial production of 450 bbls. Godley Oil Co.'s No. 15 Hooks, 1,520 feet north and 1,925 feet west of Section 140, Block 29, topped the pay at 1,840 feet, was drilled to a total depth of 1,922 feet and had an initial production of 120 bbls. Marland Oil Co.'s No. 8-A Clay, 250 feet from north and 2,390 feet from east of Section 138, Block 29, W.&N.W. Survey, was drilled to a total depth of 1,790 feet, topped the pay at 1,717 feet, shot with 20 quarts at 1,774-84 feet and had an initial production of 40 bbls. Marland Oil Co.'s No. 2-F, located 250 feet from north and 1,070 feet from east of Section 138, Block 29, W.&N.W. Survey, topped the pay at 1,748 feet, was drilled to a total depth of 1,774 feet and had an initial production of 88 bbls. Merrick & Lamb's No. 5 Dora Roberts, located 250 feet from south line and 2,390 feet from east line of Section 126, Block 29, topped the pay at 1,780 feet, was drilled to a total depth of 1,899 feet and had an initial production of 125 bbls.

Reagan County

Big Lake Oil Co.'s No. 146 University made 475 bbls. at 2,875-2,904 feet. Its No. 147 University made 240 bbls. at 2,878-95 feet, and No. 149 University made 100 bbls. at 2,936-75 feet.

Pecos County

Mid-Kansas Oil & Gas Co.'s No. 5-H, located 1,318 feet from south and 4,124 feet from west of Section 32, Block 194, topped the lime at 1,140 feet, topped the pay at 1,505 feet, was drilled to a total depth of 1,665 feet and had an initial production of 1,082 bbls. hourly. Phillips Petroleum Co.'s No. 1 Hyman, 330 feet from south and east of Section 8, Block 125, T.&St.L.R.R. Survey, topped the lime at 2,085 feet, had an oil and gas show at 2,395 feet, hole full of sulphur water at 3,600 feet, drilled to a total depth of 4,617 feet and dry and abandoned. Red Bank Oil Co.'s No. 4 Smith, 832 feet from north and 1,450 feet from west of Section 24, Block 194, topped the salt at 885 feet, topped the lime at 1,472 feet, topped the pay at 1,480 feet and made 16 bbls. per hour at 1,634 feet.

Winkler County

Humble Oil & Refining Co.'s No. 5-B Hendricks, 1,320 feet south and 330 feet west of Section 39, Block 26, topped the lime at 2,330 feet, topped the pay at 2,782 feet, was drilled to a total depth of 2,788 feet and had an initial production of 169 bbls. hourly, 61 per cent water. Independent Oil & Gas Co.'s No. 3 Vardeman, located 1,650 feet north and 2,310 feet west of SE cor. Section 41, Block B-5, was drilled to a total depth of 3,100 feet, plugged back to 2,975 feet, no production; now plugging to abandon. Roxana Petroleum Corp.'s No. 1-G Hendricks, 440 feet south and 2,310 feet east of NW cor. Section 39, Block 26, topped the lime at 2,315 feet, encountered a gas show at 2,694 feet and an oil show at 2,809 feet, was drilled to a total depth of 3,245 feet, plugged back to 3,160 feet and had an initial production of 648 bbls. daily, 70 per cent water. Roxana and The Texas Company's No. 3-E Hendricks, located 2,200 feet north and 330 feet west of SE cor. Section 39, Block 26, topped the lime at 2,342 feet, topped the pay at 2,750 feet, was drilled to a total depth of 2,755 feet and had an initial production of 1,000 bbls. hourly open.

Southern Crude Oil Purchasing Co.'s No. 2 Hendricks T-88-J, located 1,270 feet south and 330 feet east of NW cor. Section 30, Block B-5, topped the lime at 2,654 feet, topped the pay at 2,725 feet, increased production at 2,755 feet, was drilled to a total depth of 2,810 feet and had an initial production of 209 bbls. hourly. Its No. 10 Hendricks T-88-M, located 1,320 feet north and 2,310 feet east of SW cor. Section 33, Block 26, topped the lime at 2,525 feet, topped the pay at 2,923 feet, was drilled to a total depth of 2,930 feet and had an initial production of 10,000 bbls. daily, 80 per cent water. Its No. 23 Hendricks T-88-M, located 440 feet south and 330 feet east of NW cor. Section 33, Block 26, topped lime at 2,414 feet, topped the pay at 2,780 feet, increased production at 2,810 feet, was drilled to a total depth of 2,820 feet and had an initial production of 110 bbls. hourly. Its No. 1 Hendricks T-88-P, located 1,320 feet north and west of SE cor. Section 26, Block 26, topped the lime at 2,635 feet, had a gas show at 2,630 feet, topped the pay at 2,895 feet, was drilled to a total depth of 2,954 feet and had an initial production of 450 bbls. daily, 20 per cent water. Its No. 4 T-88-U, located 440 feet south and 1,650 feet east of Section 41, Block 26, topped the lime at 2,695 feet, topped the pay at 2,845 feet, was drilled to a total depth of 2,955 feet and had an initial production of 103 bbls. hourly. Its No. 1 T-88-B, located 990 feet north and east of SW cor. Section 35, Block B-5, topped the lime at 2,180 feet, encountered a gas show at 2,236 feet and an oil show at 2,685 feet, topped the pay at 2,838 feet, was drilled to a total depth of 2,859 feet and had an initial production of 800 bbls. daily and spraying 25,000,000 feet of gas. Texon Oil & Land Co.'s No. 5-B Hendricks, 1,320 feet south and 330 feet west of NE cor. Section 45, Block 26, topped the lime at 2,518 feet, topped the salt at 1,813 feet, was drilled to a total depth of 3,027 feet, plugged back to 2,950 feet and had an initial production of 360 bbls. daily, 10 per cent water. Eastland Oil Co.'s No. 1-A Hendricks made 500 bbls. at 2,900-3,055 feet. Humble Oil & Refining Co.'s No. 16 Grisham-Hunter made 1,200 bbls. of oil at 2,600-2,703 feet. Humble Oil & Refining Co.'s No. 6-B Hendricks was junked at 2,352 feet. Marland Oil Co.'s No. 5 Hendricks was temporarily abandoned at 20 feet. Southern Crude Oil Purchasing Co.'s No. 1 Hendricks T-88-B made 800 bbls. at 2,838-59 feet.

PECOS COUNTY
Week Ended October 2

Company and lease—	Wells	Bbls.
California Co:		
Yates Lease 1	17	7,244
Smith Lease 1	4	614
Smith Lease 2	2	231
Smith Lease 3	12	2,000
Crosby Drilling Co.:		
M. A. Smith	1	40
Gulf Prod. Co.:		
All leases	28	11,890
Humble O. & R. Co.:		
M. A. Smith	9	1,436
Smith-B	5	711
Kirby Pet. Co.:		
J. H. Tippett	1	32
Kirby Pet. and Edson:		
J. H. Tippett	1	144
Marland Oil Co.:		
Yates-A	10	1,200
Matador Oil Co.:		
Smith	2	165
Mazda & Savoy:		
Smith	2	167
McMan O. & G. Co.:		
Smith-A	1	480
Smith-B	4	1,076
Smith-C	1	174
J. H. Tippett	2	126
McMan and Marland:		
Yates	17	3,648
Mid-Kansas & Trans. Cont.:		
Yates-A	24	8,840
Yates-B	25	4,634
Yates-C	9	3,054
Yates-D	5	7,469
Yates-E	1	134
Yates-F	2	680
Yates-G	4	1,125
Yates-H	6	2,102
Smith	2	62
Smith-Taylor	18	2,618
Oil Operators Trust:		
Pecos River	7	765
Phillips Pet. Co.:		
Smith	1	85
Red Bank Oil Co.:		
Smith	2	127
Roxana Pet. Corp.:		
Tippett	9	1,867
Smith	9	863
Smith-B	1	174
Smith-D	1	216
Simms Oil Co.:		
Smith	7	4,475
Skelly Oil Co.:		
Tippett	1	102
Texon O. & L. Co.:		
Yates	2	0
Total	256	70,771

WINKLER COUNTY
Week Ending October 2

Company, farm, section, block—	Wells	Prod.	Wells Drg.	Loc. Rgs.
Amerada Pet. Co.:				
Cowden, 3, B-12	1	586	0	1
Atlantic O. P. Co.:				
Hendricks-A, 34, B-5	8	1,648	5	0
Hendricks-B, 44, 26	2	436		
Hendricks-D, 29, B-5	8	2,948		
Hendricks-E, 41, B-5	3	1,028		
Hendricks-G, 29, B-5	5	3,301		
Atlantic & Collett:				
Hendricks-F, 46, 26	12	8,816		
Atlantic & Kesslar & Logan:				
Leck, 3, 74	1	629	0	1
California Co.:				
Hendricks, 29, B-5	8	1,542		
Cranfill & Reynolds:				
Hendricks-A, 28, B-5	2	332	1	1
Hendricks-B, 35, B-5	1	131		
Hendricks-C, 33, 26	2	3,447		
Hendricks-D, 33, 26	1	248		
Hendricks-E, 33, 26	2	439		
Eastland Oil Co.:				
Hendricks, 35, B-5	1	358	2	1
Gulf Prod. Co.:				
Hendricks-A, 34, B-5	12	4,080	8	0
Hendricks-B, 45, 26	10	8,425		
Hendricks-C, 40, B-5	5	2,900		
Humble O. & R. Co.:				
Hendricks-A, 34, B-5	15	6,400	0	4
Hendricks-B, 29, B-5	6	1,474		
Hendricks-C, 32, 26	8	1,693		
Hendricks-B, 47, 26	3	1,201		
Independent O. & G. Co.:				
Hendricks-A, 34, B-5	8	2,651	3	0
Howe-B, 44, 26	3	340		
McCabe, 36, B-5	1	240		
Hendricks, 42, B-5	1	21		
Vardeman-B, 41, B-5	6	1,780		
Magnolia Pet. Co.:				
Hendricks, 29, B-5	8	1,110	0	1
Marland Oil Co.:				
Hendricks, 33, 26	4	2,146	4	2
Hendricks-A, 29, 26	1	289		
Hendricks-B, 34, 26	1	Off		
Murchison & Cranfill Bros.:				
Hendricks-A, 35, B-5	3	1,651	2	1
Hendricks-B, 35, B-5	3	519		
Hendricks-C, 35, B-5	1	57		
Hendricks-H, 33, 26	1	3,471		
Hendricks-I, 34, 26	1	751		
Prairie O. & G. Co.:				
Hendricks, 40 26	6	4,312	2	1
Pure Oil Co.:				
Hendricks-A, 41, B-5	10	2,894	5	5
Hendricks-B, 34, B-5	13	3,527		
Hendricks-C, 45, 26	6	7,001		
Republic Prod. Co.:				
Hendricks-A, 45, 26	3	2,800	5	0
Hendricks-B, 41, B-5	4	1,741		
Hendricks-C, 42, B-5	4	643		
Roxana Pet. Co.:				
Scarborough, 1, C-22	2	Off	3	1
Hendricks-A, 45, 26	6	5,568		
Hendricks-B, 29, B-5	6	1,613		
Hendricks-C, 29, B-5	8	3,283		
Hendricks-D, 41, B-5	6	1,786		
Hendricks-E, 40, B-5	3	1,451		
Hendricks-F, 46, 26	5	2,852		
Roxana-The Texas Co.:				
Cowden-A, 3, B-12	3	1,322	5	0
Hendricks, 45, 26	5	3,064		
Hendricks-A, 29, B-5	9	3,681		
Hendricks-B, 40, 26	5	2,786		
Hendricks-C, 40, 26	6	5,609		
Hendricks-E, 40, 26	2	1,943		
HendricksD, 40, 26	6	1,912		
Skelly Oil Co.:				
Hendricks, 40, 26	12	9,840	2	0
Southern Crude:				
T-67 Hendricks-A, 42, B-5	2	190	53	13
T-67 Hendricks-3-A, 4, B-12	3	765		
T-67 Hendricks-B, 44, 26	3	728		
T-67 Hendricks-3-B, 33, 26	3	894		
T-67 Hendricks-C, 33, B-5	5	980		
T-67 Hendricks-2-D, 28, 26	1	938		
T-67 Hendricks-E, 42, B-5	3	247		
T-67 Hendricks-F, 33, B-5	4	1,220		
T-68 Hendricks-3-A, 35, B-5	3	921		
T-88 Hendricks-A, 44, 26	4	1,153		
T-88 Hendricks-B, 4, B-12	2	651		
T-88 Hendricks-C, 29, B-5	7	1,000		
T-88 Hendricks-H, 28, B-5	4	960		
T-88 Hendricks-I, 30, B-5	4	1,724		
T-88 Hendricks-J, 30, B-5	1	659		
T-88 Hendricks-L, 4, B-12	1	365		
T-88 Hendricks-K, 41, 26	3	879		
T-88 Hendricks-M, 33, 26	16	8,501		
T-88 Hendricks-T, 34, 26	2	836		
T-88 Hendricks-U, 41, 26	3	812		
T-89 Hendricks-A, 35, B-5	3	460		
Texon O. & L. Co.:				
Hendricks-A, 41, B-5	3	1,654		
Hendricks-B, 45, B-5	4	2,541	3	0
Winkler O. P. Co.:				
Hendricks, 33, 26	1	632		
Miscellaneous			8	4

OIL FIND IN BOLIVIA

Oil deposits are reported to have been discovered by American prospectors in the Buena Vista and Santa Cruz regions of Bolivia.

Brief Items for Petroleum Refiners

Aruba Plant of Pan American Has Large Cracking Capacity

NEW YORK, Oct. 8.—Following the meeting of Pan American Petroleum & Transport Co. directors here a few days ago, additional data regarding the company's new refinery at Aruba, Dutch West Indies, has been forthcoming.

Originally, it was planned to expend about $4,000,000 in establishing a 60,000-bbl. skimming plant on the Island of Aruba. The plans were amended after construction was started, and now involve close to $11,000,000. The refinery will have eight cracking units, giving the refinery aggregate capacity of 100,000 bbls. daily. The first of the cracking units is expected to be in operation within five months, and the entire refinery will be in operation early next summer. Lago Oil & Transport, a subsidiary, will supply the crude from its Venezuela properties.

Establishment of the Aruba refinery marks a departure in policy for Pan American Petroleum & Transport Co., as it is the company's first utilization of cracking equipment for crude. The addition of the cracking equipment at the Aruba plant will make this refinery most flexible, enabling it to run heavily on gasoline on a weak fuel oil market, and vice versa. Up to now, Pan American's business has been 75 per cent or more on fuel oil, and the unfavorable market for this product during the past 18 months has decreased the company's earnings materially.

Lago Oil & Transport Co. is currently producing about 102,000 bbls. of crude daily in Venezuela, and could easily step its production up to the 110,000 bbls. daily needed to run the Aruba refinery at capacity, if need be. The company

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INSTALL VACUUM PROCESS AT LAWRENCEVILLE PLANT

NEW YORK, Oct. 8.—The Indian Refining Co. has completed the modernization and re-organization of its refinery equipment, and has also reorganized its operating program, limiting its marketing to an area which can be served under advantageous freight rates from Lawrenceville, Ill.

The company has scrapped all old primary distillation methods at its Lawrenceville plant, replacing this equipment with 10,000 bbls. cracking capacity and 14,000 bbls. capacity of pipe stills. The modernization has effected an increase from 22 to 56 per cent in average gasoline recovery, 25 per cent of the gasoline production being of premium quality.

Installation of Govers process equipment for making lubricating oils in conjunction with vacuum distillation has completed the reconstruction plan at the refinery. The company owns this process, which is designed as a wax remover in order to give lube oils low cold tests. The results of the operation, the company says, shows operating economies, with larger yield of lubricating oils of top quality. Present production of lubricating oil is 17,000 gallons daily, which will shortly be doubled. By early next summer, the plant will be equipped to turn out 80,000 gallons a day.

The company last year marketed about 80,000,000 gallons of gasoline. It operates 260 company-owned stations, handling 15 per cent of the total gallonage. The company also has 7,000 of its pumps installed in stations of dealers handling its product.

CONSOLIDATE MACMILLAN OIL REFINERY INTERESTS

The consolidation of all the Macmillan properties under the name of the Macmillan Petroleum Corp. of Delaware with an authorized capitalization of $3,000,000 has been perfected, according to an announcement by R. S. Macmillan. The properties involved in the consolidation include the Macmillan Refining Co., operating a 7,000 bbl. refinery at Borger, Tex., and the Macmillan Petroleum Co., with refineries at El Dorado, Ark., and Long Beach, Calif.

The properties of the Independent Oil Co., a distributing concern, and Boner & Sheldon Co., an engineering concern, are included in the consolidation. The company also has interests in other oil companies. The directors of the company are R. S. Macmillan, Alfred Macmillan, M. P. Macmillan, S. M. Batteron and H. E. Boner.

APPOINTED SALES MANAGER

Harry J. Dolan has been appointed manager of carload sales of the Bartles-

Harry J. Dolan

Maguire Oil Co. of Milwaukee. Mr. Dolan will have his headquarters at the Chicago office of the company which operates a refinery in East Chicago. Mr. Dolan was formerly city salesman for the company at Milwaukee.

ENLARGES CRACKING CAPACITY

The Standard Oil Co. of California has completed and placed in operation four units of the Dubbs cracking process at its El Segundo refinery. Four more units are under construction and will be ready to operate in the near future. The eight units have a charging capacity of 24,000 bbls. daily.

The California Standard has had several units of the Dubbs process in operation at its Richmond refinery for approximately one year. With the completion of the El Segundo program the two refineries will have a cracking capacity of approximately 45,000 bbls. daily.

BARNSDALL BUYS COMPANY

CHICAGO, Oct. 6.—The Barnsdall Refineries, Inc., announces the purchase of the Sun Flower Oil Co. of Topeka, Kans. J. S. (Joe) Longshore has been the head of the organization which operates three bulk and eleven filling stations.

Board of Appeals Decide Important Oil Patent Issues

WASHINGTON, D. C., Oct. 6.—Two important decisions have been rendered by the United States Board of Patent Appeals during the last week, one involving the use of superheated steam in contact filtering and the other the use of steam to hasten the flow of the oil through certain sections of a pressure still. In the case of the former, the Board of Appeals verified the opinion of the examiner in which six claims made by H. L. Kauffman were rejected. In a statement by the board as a basis for their opinion they summarized the findings as follows:

"Appellants stated that the claims were dependent for their novelty upon (1) the use of steam in a superheated form, (2) agitation of the oil and clay by direct introduction of superheated steam, and (3) the fact that the clay used was untreated clay. It was found that the prior art showed the first two features and that, as to the third feature, it could

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Eastern Refiners Interested in New Technical Service

OIL CITY, Pa., Oct. 5.—Announcement was made here today of the organization of the engineering concern of Smith and Leslie, Inc., in which several Pennsylvania refiners will be interested as stockholders and officials. Headquarters of the company have been established in the Drake Theater Building and it is expected that branch offices will be opened at other points in the near future.

The new concern was formed for the purpose of carrying on research and engineering work applying to the refining of crude petroleum including the manufacture of natural gasoline. Those associated with the company have completed considerable research work and some equipment is already being installed at eastern refineries. This service to the refining industry will be offered at this time:

1. Topping plants producing gasoline, naphtha, kerosene, gas-oil and reduced crude.
2. Vacuum distillation plants producing directly pressable was distillate, steam refined cylinder stocks, overhead cylinder stocks, and heavy bottoms.
3. Pressed distillate plants, either atmospheric steam or vacuum producing gas-oil, non-viscous neutral oils, and viscous neutral oils.
4. Centrifuge stock solution re-run

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EXPLOSION AT CALGARY

CHATHAM, Ontario, Oct. 8.—An explosion and fire at the Regal Oil Refinery plant at Calgary caused the death of three men, Geoffrey Hollister, treater; Alexander Antoniuk, plant fireman, and C. J. Siefert, secretary of the company. W. A. Lancaster, accountant, suffered minor injuries. The loss was confined to the office buildings, laboratory, fuel tank and lubricant store room. Rebuilding will be started as soon as the insurance is adjusted.

NOT CROSS UNITS

The report that the Sun Oil Co. is installing two cracking units of the Cross type at its Toledo, Ohio, refinery is denied by officials of the company who say no Cross units are being installed.

EXPANSION POLICIES OF INDUSTRY BRING LOSSES

KANSAS CITY, Mo., Oct. 6. — The overexpansion of distributing facilities during the past few years has been a mistake which has resulted in large losses to individual companies and has created a wrong impression in the minds of the consuming public as to the oil industry's profits, L. V. Nicholas of Chicago told those in attendance at the annual Four State Jobbers meeting which closed here today after a three-day session. Mr. Nicholas, who was formerly head of the Independent Oil Men of America, discussed marketing conditions in the oil industry and criticised many of the prevailing practices.

Several hundred jobbers of Kansas, Nebraska, Missouri and Iowa and refinery representatives from the Mid-Continent were in attendance at the annual meeting. The first two days were largely devoted to business sessions in which several problems of special interest to jobbers were discussed. Thursday evening the Kansas City Oil Men's Club was the host at a party. Today the out-of-town guests were given the opportunity to visit local refineries and the plants of compounders and manufacturers of jobbing equipment.

NAME C. M. LAMASON EXECUTIVE ASSISTANT

C. M. Lamason, who has been connected with the sales and manufacturing

C. M. Lamason

departments of the Pure Oil Co. for several years, has been appointed executive assistant of the Louisiana Oil Refining Corp. with headquarters in Shreveport, La. He joined the Pure Oil Co. in 1921 and at the time of his recent resignation he was division sales manager with headquarters at Norfolk, Virginia.

Mr. Lamason is well known in the Mid-Continent Field. He was formerly in charge of the Pure company sales offices at Tulsa and Dallas. In his new work he will assist the executive staff of the Louisiana corporation.

DEATH OF R. H. HOWELL

R. H. Howell, Jr., superintendent of the Keen & Woolf Refining Co., died suddenly October 1 at his home at Clinton, near Houston. Death was due to heart trouble. Mr. Howell was 40 years old.

Natural Gasoline Manufacture

NEW GASOLINE UNITS OPERATE ON LEAN GAS

New gasoline units, designed to operate on "lean" gas under the well pressure system, are being added to three of the Phillips Petroleum Co.'s natural gasoline plants in the Texas Panhandle, according to an announcement made by Phillips officials. These additional units will permit the economical utilization of large volumes of natural gas not now being processed because of its low gasoline content.

The Phillips company, early in the year, built a large well pressure plant in Section 22, Block Y, Hutchinson County, to utilize lean gas then going to waste in the main part of the Borger Field. One of the three new units will be installed at the Pampa plant, located in Section 88, Block B-2, Gray County, where the original plant is now processing 25,000,000 feet of gas per day, and is making approximately 35,000 gallons of gasoline daily. The well pressure unit will handle a daily volume of 20,000,000 feet of "lean" gas and make 8,000 to 10,000 gallons of gasoline per day.

The other two units are being installed at the Johnson plant in Section 69, Block 46, H.&T.C. Survey, Hutchinson County, and at the Texroy plant in Section 3, Block B-3, Hutchinson County.

WOOD WITH NATURALINE CO.

A. F. Wood, sales manager of the Chestnut & Smith Corp., Tulsa, has been appointed assistant to D. E. Buchanan, vice president and general manager of the Naturaline Co. of America. The latter company is affiliated with the Chestnut & Smith Corp., specializing in the sale of Naturaline, an aviation motor fuel.

C. W. Anderson, sales manager of the Naturaline company; Fred L. Foster, sales representative, and Mr. Wood last week completed an airplane trip to several points in the Middle West and East. The airplane was recently purchased by the company and is used by the sales department in promoting the sale of its products.

ENLARGE PANHANDLE PLANT

The Coltexo Co., in which The Texas Company and the Columbian Carbon Co. are jointly interested, is building an addition to their LeFors gasoline plant in Gray County of the Texas Panhandle. The original plant was completed only a short time ago and has a capacity of 20,000 gallons.

With the additional units the capacity will be doubled to 40,000 gallons daily. The Texas Company controls a large block of acreage in the vicinity of the plant and the gas production from this will be run to the plant, the residue gas to be turned over to the Columbian Carbon Co. to be burned in the production of carbon black.

BUILDS TWO PLANTS

The Pure Oil Co. will complete two natural gasoline plants in the Little River Pool of the Seminole area within the next week, one of them a 4,000-gallon plant and the other an 8,000-gallon plant. After these are added the company will be producing about 52,000 gallons of natural gasoline daily in the Seminole area. The production from the two new plants will be stabilized and loaded at their Lima plant.

NATURAL GASOLINE PRODUCTION REACHES NEW PEAK IN AUGUST

The decline in the production of natural gasoline was checked in August, according to the Bureau of Mines, when the total output amounted to 143,700,000 gallons. This represents a daily average of 4,640,000 gallons, an increase over July of 20,000 gallons and over August, 1927, of 290,000 gallons, or 7 per cent. No outstanding increases in production were recorded in any of the seven major districts in August. The output of the Appalachian and California districts increased slightly, Indiana-Illinois, Texas and Louisiana-Arkansas were unchanged, but a decline in Oklahoma-Kansas was counterbalanced by an increase in the Rocky Mountain area.

The decrease in stocks occasioned by a heavy motor fuel demand was continued in August, when the total at plants declined from 20,044,000 gallons to 17,408,000 gallons. The latter was the lowest point recorded since early in 1926. Blending at the plants showed a material decrease in August.

The total production for the eight months' period is shown as 1,140,800,000 gallons as against 1,056,000,000 gallons for the same period last year. This represents an increase of only 8.3 per cent and accounts for the reduction in stocks to their lowest point for two and a half years. The following table summarizes the August report; data given in thousands of gallons.

	Natural gasoline								
	Production				(1)		(2)		
	Aug. 1928	July 1928	Jan.-Aug., 1928	Aug. 1927	Aug. 1928	July 1928	(3)	(4)	(5)
Appalachian ..	5,800	5,500	65,200	5,700	1,640	1,913	164	222	199
Ind., Ill., etc. ..	900	900	9,300	1,200	270	304	44	6	7
Okla., Kans. etc.	50,600	51,300	414,100	48,700	8,271	10,479	1,584	2,332	567
Texas	26,200	26,200	211,300	27,200	4,207	4,378	252	458	134
La. and Ark. ..	7,300	7,300	57,900	7,300	1,172	1,003	144	126	34
Rocky Mtn. ...	4,200	3,600	29,800	3,900	532	633	....	....	1
California	48,700	48,400	353,200	41,000	1,316	1,334	Not available		...
Total U. S. ..	143,700	143,200	1,140,800	135,000	17,408	20,044	2,188	3,144	942
Daily average	4,640	4,620	4,680	4,350	....	....	....	....	...

(1) Stocks end of month. (2) Blended motor fuel August, 1928. (3) Natural gasoline used. (4) Naphtha or other oils used. (5) Stocks end of month.

The indicated output of motor fuel from the above and other sources may be expressed by the following table:

(Thousands of gallons)	August, 1928	July, 1928	Jan.-Aug., 1928	August, 1927
Gasoline produced at refineries * †	1,429,600	1,381,100	10,149,500	1,176,400
Natural gasoline blended at plants east of Calif.	2,200	2,700	20,100	3,200
Natural gasoline sold direct to jobbers	2,100	2,100	16,800	800
Benzol production ‡	9,800	9,600	77,300	9,000
Total motor fuel produced	1,443,700	1,395,500	10,263,700	1,189,400
Daily average	46,570	45,020	42,060	38,370
*Includes natural gasoline blended at refineries	121,600	111,500	896,400	97,500
†Includes natural gasoline runs through refinery pipe lines in California	6,200	6,200	58,600	8,600
‡Estimated with production of by-product coke as a basis.				

EFFECT OF VARYING TEMPERATURE ON ABSORPTION EFFICIENCY OF OIL

By A. J. L. Hutchinson*
Research Engineer, Engineering, Research & Equipment Co.

It has been the general opinion of most people in the natural gasoline industry that the temperature of the lean oil, provided it was below 80 degrees Fahrenheit, was as low a temperature as was necessary. There has been considerable published on this subject by men who have done a lot of experimental work on the old grid towers to show that below a temperature of 80 degrees Fahrenheit no gain was realized, or a very slight gain at the most that did not justify the expense of obtaining lower temperatures. The advent of the multiple plate absorbers, however, where the oil and gas approach equilibrium very closely in the absorber, makes the factor of temperature a very important item.

Gas Cooled

In some plants large cooling surfaces are provided to bring the gas down to as low a temperature as possible while the oil cooling was very poor. The idea being that when the gasoline in the gas was cold it would be easier to "knock out." This is directly in opposition to theory and practice. As it is the vapor pressure of the gasoline when dissolved in the oil that governs absorption, the only effect a high gas temperature has is to raise the oil temperature.

The term "absorption efficiency" seems to have several meanings in general use. For the purpose of this discussion it is necessary to give it a very definite and limited meaning. Absorption efficiency is the per cent of any constituent in the entering gas that is absorbed by the oil. By this definition the absorption efficiency of, say, butane and propane may be considerably different in the same absorber at the same time. This clearly defines the difference between plate efficiency and absorption efficiency. This difference in absorption efficiency is what is commonly called the selectivity of absorption.

From the work that has been done and published we are justified in assuming that Raoult's Law of Solubilities holds. By this law, absorption varies inversely as the vapor pressure, and since vapor pressure varies directly as temperature, absorption must vary inversely as the temperature. This inverse ratio, however, is not a simple linear function.

*Before California Natural Gasoline Association at Los Angeles, Calif.

Efficiency Discussed

By definition the absorption efficiency is not the same at any temperature for two different constituents. Therefore, we will consider one component of the system by itself. In an absorber the oil and gas approach equilibrium at the bottom of the absorber; it is the conditions that exist at this point that have a large bearing on the efficiency. If we assume that we have an absorber operating and extracting 60 per cent of the butane with an oil circulation of 70 gallons a minute and the temperature of the oil at the bottom of the absorber 100 degrees Fahrenheit, we now, through some means, cool this oil down to a temperature of 80 degrees Fahrenheit, we could cut our oil circulation to 51 gallons a minute and get the same extraction efficiency for butane, or 60 per cent.

Under these conditions, the absorption efficiency for propane will, however, not remain a constant but will decrease with the drop in temperature and lowering of the oil rate. With a circulation as above of 70 gallons of oil per minute in our absorber and a temperature of 100 degrees Fahrenheit, the absorption efficiency for propane would be 18.3 per cent, while a circulation of 51 gallons per minute and a temperature of 80 degrees Fahrenheit it would be 12.9 per cent.

This brings up a point that is directly in contradiction to general practice. It is the general opinion that in order to make a more stable product in the plant the oil temperature and oil circulation should be raised. However, the reverse is true. Both the oil temperature and oil rate should be lowered, taking care the right ratio is maintained between temperature and rate. This point in the theory has been carefully checked in plant operations and found to be correct.

Absorption Retarded

The vapor pressure of the constituents left in the oil from the still are higher the higher the oil temperature. As ab-

(Continued on Page 162)

A Practical Suggestion

COIL BY-PASS

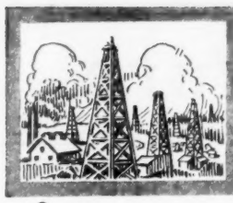
One of chief worries of a gasoline plant operator is cold weather and its consequences has cost the industry thousands of dollars not only in damage of equipment but also in shut-down time.

The freeze-up troubles may be divided in two divisions—those in field lines and those at plants. These suggestions relate to the plant. Starting with gas coils if some of the pipes from headers carry valves at both intake and discharge they may be closed when the weather gets cold to keep them free of obstructions to be used as a reserve should the other pipes get frozen up. The operating coil surface exposed will be less so that the gas passing will not reach quite as low temperature which will have no small effect.

The oil coils seldom give any trouble but the gasoline coils are the source of much grievance. It is not an uncommon occurrence for operators in emergency conditions to use a direct fire torch on the gasoline coils. The most practical suggestion as to the gasoline coils is to use a by-pass around the coils. This is not often done but will almost definitely assure continuous operation during frigid weather. The by-pass is easily made if the intake and discharge headers are at the same end of the coil pit.

The water line to the cooling tower should have two sets of spray lines, one for gas and gasoline and the other for cooling the absorbing oil. During the severe cold snaps the gasoline and gas coils will not require any water so that the valve or spray line riser may be opened and the water discharged directly into the pit instead of through sprays.

Practical suggestions by those connected with the construction and operations of natural gasoline plants are invited. Payment will be made as soon as suggestions are accepted. Address all communications to the Natural Gasoline Department, The Oil and Gas Journal, Tulsa.



REFINERY AND CRUDE PRICES

Quotations on refined products are for interstate or export movement unless otherwise noted.

GASOLINE AND NAPHTHA

OKLAHOMA (Group 3)—	Oct. 9		Oct. 2		Sept. 25	
50-52 450 endpoint	.08¾	.08⅞	.08¾	.08⅞	.08¾	.09
56-58 450 endpoint	.08¾	.08⅞	.08¾	.08⅞	.08¾	.09
58-60 450 endpoint	.09	.09¼	.09	.09¼	.09	.09¼
*58-60 437 endpoint (U. S. Motor)	.09740		.09725		.09695	
*60-62 437 endpoint	.09750		.09900		.09958	
*60-62 400 endpoint	.10250		.10125		.10158	
*64-66 375 endpoint	.11000		†.10½	.10¾	.11000	
68-70 360 endpoint	.10½		.10½	.10¾	.10½	
64-66 437 endpoint (blend)	.09¾		.09¾		.09¾	
NORTH TEXAS—						
56-58 450 endpoint	.08¾		.08¾		.08¾	
58-60 450 endpoint	.08¾		.08¾		.08¾	
58-60 437 endpoint (U. S. Motor)	.09¼	.09½	.09¼	.09½	.09¼	.09½
60-62 400 endpoint	.09½	.09⅝	.09½	.09⅝	.09½	.09⅝
64-66 390 endpoint	.09⅝		.09⅝		.09⅝	
64-66 375 endpoint	.09¾	.10	.09¾	.10	.09¾	.10
68-70 360 endpoint	.10¼		.10¼		.10¼	
64-66 437 endpoint (blend)	.09½		.09½		.09½	
NORTH LOUISIANA—						
58-60 437 endpoint (U. S. Motor)	.09½	.09¾	.09½	.09¾	.10	.10¼
ARKANSAS—						
58 60 437 endpoint (U. S. Motor)	.09½	.09¾	.09½	.09¾	.09¾	
PENNSYLVANIA—						
52-54 Naphtha	.11	.11¼	.11¼	.11½	.11¼	.11½
54-56 Naphtha	.11	.11¼	.11½	.11¾	.11½	.11¾
58-60 Gasoline	.11⅛	.11½	.11¾	.12	.11¾	.12
60 Gasoline	.12	.12¼	.12	.12¼	.12¾	.13
62 Gasoline	.12½	.12¾	.12½	.12¾	.13	.13¼
64 Gasoline	.12¾	.13	.12¾	.13	.13½	.13¾
CALIFORNIA—						
58-60 437 endpoint (U. S. Motor) domestic	.10	.11	.10	.11	.09½	.10
CHICAGO DISTRICT (Based on Group 3)—						
50-52 450 endpoint (Naphtha)	.08¾	.09	.09	.09¼	.09	
56-58 450 endpoint	.09		.09		.09¼	
58-60 437 endpoint (U. S. Motor)	.09¼	.09½	.09½		.09½	.09¾
60-62 400 endpoint	.10	.10¼	.10		.09⅞	
64-66 375 endpoint	.10½	.10¾	.10½	.10⅞	.10⅝	
68-70 360 endpoint	.11		.11		.11	
64-66 437 endpoint (blend)	.09¾	.10	.09¾	.09⅞	.09¾	.10

NATURAL GASOLINE

OKLAHOMA (Group 3)—	Oct. 9		Oct. 2		Sept. 25	
Grade A, 72-79.9, 37 5e.p., rec. 90%	.10¼		.09½	.09¾	.10	
Grade AA, 80-87.9, 375 e.p., rec. 90%	.10¼		.09½	.09⅝	.09⅞	.10
Grade B, 76 83.9, 375 e.p., rec. 85%	.09¾		.09½		.09½	.09⅝
Grade BB, 84-92, 375 e.p., rec 85%	.09¾		.09⅝	.09½	.09⅝	.09½
Grade C, 80-90, 375 e.p., rec. 78%	.09½		.09⅝		.09¼	
NORTH TEXAS—						
Grade A, 72-79.9, 375 e.p., rec. 90%	.10¼	.10¼	.09½	.09¾	.09¾	.10
Grade AA, 80-87.9, 375 e.p., rec. 90%	.10⅛		.09½		.09¾	
Grade B, 76-83 9, 375 e p., rec. 85%	.09¾		.09½		.09½	
Grade BB, 84-92, 375 e.p., rec. 85%	.09¾		.09¼		.09½	
Grade C, 80-90, 375 e.p., rec. 78%	.09½		.09⅝		.09¼	
NORTH LOUISIANA—						
Grade AA, 80-87, 375 e.p., rec. 90%	.10¼	.10⅜	.09⅝	.09¾	.10	.10⅛
Grade BB, 84-92, 375 e.p., rec. 85%	.09¾		.09⅝		.09½	.09⅝
Grade C, 80-92, 375 e.p., rec. 78%	.09⅝		.09½	.09⅝	.09⅝	
CALIFORNIA—						
75-78 375-390 endpoint	.07¼	.07¾	.07¼	.07¾	.07	.07½
CHICAGO DISTRICT (Based on Group 3)—						
Grade A, 72-79.9, 375 e.p., rec. 90%	.10¼		.09½	.09¾	.10	
Grade AA, 80 87.9, 375 e.p., rec. 90%	.10¼		.09½		.09¾	.10
Grade B, 76-83.9, 375 e.p., rec. 85%	.09¾		.09½		.09¾	
Grade BB, 84-92, 375 e.p., rec. 85%	.09⅝		.09½		.09½	
Grade C, 80-90, 375 e.p., rec. 78%	.09½		.09⅝		.09¼	

BURNING OIL

OKLAHOMA (Group 3)—	Oct. 9		Oct. 2		Sept. 25	
41-43 water white Kerosene	.06	.06¼	.06¼	.06½	.06¼	.06½
42-44 water white Kerosene	.06½	.06⅝	.06½	.06¾	.06⅝	.06¾
NORTH LOUISIANA—						
41-43 prime white Kerosene	.07		.07		.07¼	
NORTH TEXAS—						
41-43 water white Kerosene	.05⅞		.06	.06¼	.06	.06¼
40-42 water white Kerosene	.05⅞		.05⅞	.06	.05⅞	.06
ARKANSAS—						
41-43 water white Kerosene	.07	.07¼	.07	.07¼	.07	
PENNSYLVANIA—						
43 Kerosene prime white	.07½	.07¾	.07½	.07¾	.07½	.07¾
45 Kerosene water white	.07½	.07¾	.07¾	.07⅞	.07¾	.08
46 Kerosene water white	.07¾	.08	.08	.08⅛	.08	.08¼
47 Kerosene water white	.08	.08¼	.08¼	.08⅜	.08¼	.08½
300 Mineral Seal	.07¼	.07½	.07¼	.07½	.07¼	.07½
CALIFORNIA—						
38-40 water white Kero. (high-burning test)	.06¾	.07¼	.06¾	.07¼	.06¾	.07¼
Engine distillate, 43-45 445 endpoint	.07½	.08	.07½	.08	.06¾	.07¼
Engine distillate, 42-44 480 endpoint	.07	.07½	.07	.07½	.06½	.06¾
CHICAGO DISTRICT (Based on Group 3)—						
41-43 water white Kerosene	.06	.06¼	.06⅛	.06⅜	.06¼	.06½
42-44 water white Kerosene	.06½	.06¾	.06¾	.07	.06¾	

FUEL OILS

OKLAHOMA (Group 3)—	Oct. 9		Oct. 2		Sept. 25	
Below 18 Fuel Oil, per bbl.	.55	.60	.55	.60	.55	.60
18-22 Fuel Oil, per bbl.	.60	.65	.60	.65	.60	.65
22-26 Fuel Oil, per bbl.	.60		.60		.60	
24-26 Fuel Oil, per bbl.	.62½	.67½	.62½	.67½	.62½	.67½
26-30 Fuel Oil, per bbl.	.67½	.75	.67½	.75	.67½	.75
28-30 Fuel Oil, per bbl.	.80	.85	.80	.85	.80	.85
32-36 Gas Oil (dark)	.02½		.02½		.02½	
32-36 Gas Oil (straw distillate)	.02⅝		.02⅝		.02⅝	
36-38 Distillate	.02⅞	.03	.02⅞	.03	.02⅞	.03
38-40 Straw Distillate	.03⅛	.03¼	.03⅛	.03¼	.03⅛	.03¼
NORTH TEXAS—						
24-26 Fuel Oil (sellers' cars) per bbl.	.55	.60	.55	.60	.55	.60
32-36 Gas Oil (straw)	.02¼	.02⅜	.02¼	.02⅜	.02¼	.02⅜
38-40 Straw Distillate	.02⅞	.03	.02⅞	.03	.02⅞	.03
NORTH LOUISIANA—						
18-20 Fuel Oil, per bbl.	.75	.80	.75	.80	.85	
32-36 Gas Oil	.02¾	.03¼	.02¾	.03¼	.03	
ARKANSAS—						
33-36 Distillate	.03¼	.03⅜	.03¼	.03⅜	.03¼	.03½
32-36 Gas Oil (straw)	.02¾	.03	.02¾	.03	.02¾	
16-22 Refinery Fuel Oil, per bbl.	.70	.75	.70	.75	.70	.75
GULF COAST (South Texas)—						
Gas Oil	.04⅛	.04¼	.04⅛	.04¼	.04⅛	.04¼
Bunker C Fuel, per bbl.	.75	.80	.75	.80	.75	.80
PENNSYLVANIA—						
30-34 Fuel Oil	.04¼	.04¼	.04¼	.04¼	.04¼	.04⅜
36-40 Fuel Oil	.04¼	.04½	.04¼	.04½	.04½	.04⅝
CALIFORNIA—						
33-36 Distillate	.03¾	.04	.03¾	.04	.03¾	.04
27-32 Distillate	.03	.03½	.03	.03½	.03	.03½
*15-20 Fuel Oil, Bunker (at tide water)	.85	1.00	.85	1.00	.85	1.00
15-20 Fuel Oil (cargo lots), per bbl.	.75	.85	.75	.85	.75	.85
27 plus Diesel, per bbl.	1.15	1.19	1.15	1.19	1.15	1.19
CHICAGO DISTRICT (Based on Group 3)—						
24-26 Fuel Oil, Group 3, bbl.	.65	.67½	.65	.67½	.65	.67½
22-26 Fuel Oil, Group 3, bbl.	.62½	.65	.62½	.65	.62½	.65
18-22 (Group 3), per bbl.	.55	.60	.55	.60	.55	.60
16-20 Smackover, per bbl.	.85	.87½	.85	.87½	.85	.87½
32-36 Gas Oil, zero	.02⅝	.03	.02⅝	.03	.02⅝	.03
32-36 Gas Oil (industrial)	.02⅜	.02½	.02½	.02⅝	.02½	.02⅝
36-38 Distillate	.03⅛	.03¼	.03	.03⅛	.03	.03⅛
38-40 Straw Distillate	.03¼	.03½	.03⅛	.03¼	.03⅛	.03¼

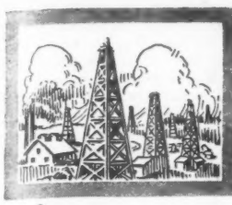
*Bunker.

LUBRICATING OIL AND WAX

OKLAHOMA (Group 3)—	Oct. 9		Oct. 2		Sept. 25	
100 vis., 2 color, 20-25 cold test	.06¼	.06½	.06¼	.06½	.06¼	.06½
100 vis., 3 color, 20-25 cold test	.06	.06¼	.06	.06¼	.06	.06¼
150 vis., 3 color, 20-25 cold test	.08¼	.08½	.08¼	.08½	.08¼	.08½
150 vis., 4 color, 20-25 cold test	.08	.08¼	.08	.08¼	.08	.08¼
180 vis., 3 color, 23-28 cold test	.09⅜	.10	.09⅜	.10	.09⅜	.10
180 vis., 4 color, 23-28 cold test	.09¼	.09¾	.09¼	.09¾	.09¼	.09¾
180 vis., 5 color, 23-28 cold test	.09⅛	.09½	.09⅛	.09½	.09⅛	.09½
200 vis., 3 color, 23-28 cold test	.09½	.10½	.09½	.10½	.09¼	.10½
200 vis., 4 color, 23-28 cold test	.09⅜	.10¼	.09⅜	.10¼	.09⅜	.10¼
200 vis., 5 color, 23-28 cold test	.09¼	.10	.09¼	.10	.09¼	.10
240 vis., 3 color, 25-30 cold test	.13¾	.14	.13¾	.14	.13¾	.14
240 vis., 4 color, 25-30 cold test	.13¼	.13½	.13¼	.13½	.13¼	.13½
240 vis., 5 color, 25-30 cold test	.12¼	.12½	.12¼	.12½	.12¼	.12½
280 vis , 3 color, 25-30 cold test	.15½	.16	.15½	.16	.15½	.16
280 vis., 4 color, 25-30 cold test	.15	.15½	.15	.15½	.15	.15½
280 vis., 5 color, 25-30 cold test	.14	.14½	.14	.14½	.14	.14½
Cylinder Stocks:						
600, steam refined, light green	.08	.09	.08	.09	.08	.09
600, steam refined, dark green	.06	.06½	.06	.06½	.06	.06½
190-200 vis. @ 210 Bright Stock	29	.30	.29	.30	.29	.30
150-160 vis. @ 210 Bright Stock	25		.25		.25	
Waxes:						
124-126 White Crude Scale Wax	.05	.05¼	.05	.05¼	.05	.05¼
PENNSYLVANIA—						
34 Neutral	.07¼	.07¾	.07½	.07¾	.07¾	.08
34 Sundebloom	.08¼	.08½	.08¼	.08½	.07¾	.08
36 Miners' Neutral	.07	.07½	.07	.07½	.07½	.08
150, 3 color	.21½	.22	.23	.23½	.23	.23½
180, 3 color	.97½	.98	.98	.98½	.98	.98½
200, 3 color	.28½	.29	.29½	.30	.29½	.30
220, 3 color	.32½	.33	.32½	.33	.32½	.33
600, steam refined	.13	.13½	.13	.13½	.13	.13½
635, steam refined	.13½	.14	.13½	.14	.13½	.14
650, steam refined	.15	.15¼	.15	.15¼	.15	.15¼
600, Pennsylvania flash	.19	.19½	.19	.19½	.19	.19½
*550, E filtered	.15	.15½	.15	.15½	.15	.15½
*600, E filtered	.19	.19½	.19	.19½	.19	.19½
600, E filtered	.18	.18½	.18	.18½	.18	.18½
600, D filtered	.23¾	.24	.23¾	.24	.23¾	.24
550, E filtered	.15½	.16	.15½	.16	.15½	.16
550, D filtered	.21½	.22	.21½	.22	.21½	.22
Pennsylvania Bright Stock	.35½	.36	.36	.36½	.36	.36½
†122-124 White Crude Scale Wax	.05½	.05⅝	.05½	.05⅝	.05¼	.05½
†124-126 White Crude Scale Wax	.05½	.05⅝	.05½	.05¾	.05½	.05¾

*At Warren, Pa. †At New York.

GULF COAST (South Texas)						
No. 2 color, 100 vis., pale oil	.07¼	.07½	.07¼	.07½	.07¼	.07½
No. 3 color, 200 vis., pale oil	.08½	.09	.08½	.09	.08½	.09
No. 3 color, 300 vis., pale oil	.11	.11½	.11	.11½	.11	.11½
No. 3½ color, 500 vis., pale oil	.12½	.13	.12½	.13	.12¼	.13
No. 4 color, 750 vis., pale oil	.15	.15½	.15	.15½	.15	.15½
No. 5 to 6 color, 200 vis., red oil	.08¼	.08½	.08¼	.08½	.08¼	.08½
No. 5 to 6 color, 300 vis., red oil	.09¼	.09½	.09¼	.09½	.09¼	.09½
No. 5 to 6 color, 500 vis., red oil	.10½	.11½	.10½	.11½	.10½	.11½
No. 5 to 6 color, 750 vis., red oil	.13¼	.14	.13¼	.14	.13¼	.14
No. 2½ color, 200 vis., pale filtered	.11⅜	.12¼	.11⅜	.12¼	.11⅜	.12¼
No. 2½ color, 300 vis., pale filtered	.13½		.13½		.13½	
No. 2½ color, 500 vis., pale filtered	.15½	.16	.15½	.16	.15½	.16
No. 2½-3 color, 750 vis., pale filtered	.18	.20	.18	.20	.18	.20
CALIFORNIA—						
130 vis., 2½-3 color	.10¼	.11	.10¼	.11	.10¼	.11
200 vis., 2½-3 color	.11½	.12	.11½	.12	.11½	.12
300 vis., 3-3½ color	.13	.13½	.13	.13½	.13	.13½



REFINERY AND CRUDE PRICES

Quotations on refined products are for interstate or export movement unless otherwise noted.

350 vis., 3½-4 color	.13¼	.14	.13¼	.14	.13¼	.14
400 vis., 3½-4 color	.15	.16	.15	.16	.15	.16
Red Neutral:						
200 vis., 4½-5 color	.11½	.11¾	.11½	.11¾	.10½	.11½
300 vis., 5 6 color	.11¾	.12½	.11¾	.12½	11¼	.12¼
400 vis., 5-6 color	.13½	.14½	.13½	.14½	.13	.14
500 vis., 4½-5 color	.15	.15½	.15	.15½	.15	.15½
500 vis., 5-6½ color	.15¼	.15¾	.15¼	.15¾	.15¼	.15¾
600 vis., 6½ plus color	.15½	.16	.15½	.16	.15½	.16

Note: Bright stocks are not manufactured commercially on the Pacific Coast.

NEW YORK (BAYONNE) REFINERY PRICES

	Oct. 9	Oct. 2	Sept. 25
Gasoline, U. S. Motor, 58-60 437	.11¼	.11¾	.11¾
Kerosene, water white, 41-43	.09	.09	.08½
*Fuel Oil, bunker "C," 14-16, per bbl.	1.05	1.05	1.05
†Fuel Oil. Diesel, 28-30, per bbl.	2.00	2.00	2.00
Gas Oil, 32-36 gravity	.05¼	.05¼	.05½
25 pale Paraffin Oil	.11¾	.11¾	.11¾
28 pale Paraffin Oil	.07	.07	.07
285 red Paraffin Oil	.11½	.11½	.11½
250 red Paraffin Oil	.10½	.10½	.10½
225 red Paraffin Oil	.09½	.09½	.09½
200 red Paraffin Oil	.09	.09	.09
Refined Wax:			
120-122 a.m.p., per lb.	.05½	.05½	.05¾
125-127 a.m.p., per lb.	.05¾	.05¾	.06
130-132 a.m.p., per lb.	.06½	.06½	.06¾
133-135 a.m.p., per lb.	.07¼	.07¼	.07½
135-137 a.m.p., per lb.	.07¾	.07¾	.07¾
Petrolatum, in bbls., carload lots, per lb.:			
Dark green	.02	.02	.02
Amber	.03½	.03½	.03½
Extra amber	.03¾	.03¾	.03¾
Cream	.06¼	.06¼	.06¼
Lily white	.07¼	.07¼	.07¼
Snow white	.08¼	.08¼	.08¼

*Lighterage, 5.0c a barrel extra. †Lighterage, 6.5c a barrel extra.

NEW YORK (BAYONNE) EXPORT PRICES

	Oct. 9	Oct. 2	Sept. 25
Gasoline, U. S. Motor, 58-60, 437, in cases.	.2690	.2690	.2690
Kerosene, standard white, in cases	.1765	.1740	.1740
Kerosene, water white, in cases	.1890	.1865	.1865
600, steam refined cylinder stocks, in bbls.	.20	.20	.20
635, steam refined	.21	.21	.21
650, steam refined	.23	.23	.23
600, Pennsylvania flash	.26	.26	.26
630, Pennsylvania flash	.34½	.34½	.34½
600, Warren E	.26	.26	.26
600, Oil City E	.25	.25	.25
Light 140-150 Bright Stock	.44	.44	.44
Dark 140-150 Bright Stock	.42	.42	.42

LOS ANGELES EXPORT PRICES

	Oct. 9		Oct. 2		Sept. 25	
Kerosene, water white	.05¼	.06¼	.05¾	.06¼	.05¾	.06¼
U. S. Motor Gasoline, 53-55, 437 e.p.	.08½	.09	.08½	.09	.08½	.09

CALIFORNIA CRUDE OIL PRICES

Standard Oil Co.-Union Oil Co. (Effective August 15, 1928)*

Gravity—	Richfield Torrance Olinda-Brea Fullerton Signal Hill Seal Beach Huntington Beach Athens Rosecrans-Dom'guez Inglewood	Whittier La Habra Coyote Hills	Kern River McKittrick Midway-Sunset Elk Hills Lost Hills Belridge Buena Vista Hills	Montebello	Santa Fe Springs	Coalinga	Wheeler Ridge	Orcutt	Ventura
	1	2	3	4	5	6	7	8	9
14 to 14.9	85	85	75	85	....	75	75	85	85
15 to 15.9	85	85	75	85	....	75	75	85	85
16 to 16.9	85	85	75	85	....	75	75	85	85
17 to 17.9	85	85	75	85	....	75	75	85	85
18 to 18.9	85	85	75	85	....	75	75	85	85
19 to 19.9	85	85	75	85	....	75	75	85	85
20 to 20.9	85	85	77	86	....	77	77	85	85
21 to 21.9	89	88	79	89	89	79	79	86	86
22 to 22.9	93	91	82	92	92	82	82	87	87
23 to 23.9	97	94	86	95	95	85	85	90	90
24 to 24.9	1 01	97	90	98	98	88	88	93	94
25 to 25.9	1 05	1 00	95	1.01	1.01	91	91	95	98
26 to 26.9	1 09	1 04	1 00	1.04	1.04	94	94	97	1 02
27 to 27.9	1 13	1 08	1 05	1.07	1.07	98	97	..	1 06
28 to 28.9	1 17	1 12	1 10	1.10	1.10	1 02	....	....	1 10
29 to 29.9	1 21	1 16	1 16	1.13	1.15	1 06	....	....	1 14
30 to 30.9	1 25	1 20	1 22	1.16	1.20	1 10	....	....	1 18
31 to 31.9	1.30	..	1 28	....	1.25	1.14	....	....	1 23
32 to 32.9	1.35	..	1 34	....	1.30	1 18	....	....	1 28
33 to 33.9	1 41	....	1 40	....	1.35	1 22	....	....	....
34 to 34.9	1.47	..	1 46	....	1.40	1 26	....	....	....
35 to 35.9	1 53	..	..	....	1.45	1 30	....	....	....
36 to 36.9	1 59	..	..	....	1.50	....	....	....	....
37 to 37.9	1 65	..	....	....	1.55	....	....	....	....
38 to 38.9	1 71	..	....	....	1 60	....	....	....	....
39 to 39.9	1.77	..	....	....	1.65	....	....	....	....
40 to 40.9	1 83	....	....	....	....	....	....	....	....
41 to 41.9	1 89	....	....	....	....	....	....	....	....
42 to 42.9	1.95	....	....	....	....	....	....	....	....

*Column 1—Signal Hill, Seal Beach, Huntington Beach and Alamitos Heights crude, 14 to 32.9 gravity, inclusive; Richfield, Olinda-Brea and Fullerton, 14 to 30.9 gravity; Torrance and Inglewood, 14 to 28.9 gravity; Dominguez and Athens-Rosecrans, 24 to 42.9 gravity.
Column 2—Whittier crude, 14 to 22.9 gravity; Coyote Hills, 14 to 30.9 gravity.
Column 3—Kern River, Newhall and McKittrick, 14 to 19.9 gravity; Midway-Sunset, Buena Vista and Elk Hills, 14 to 33.9 gravity; Lost Hills, 14 to 34.9 gravity.
Columns 8 and 9 posted by Union Oil Co. only.
†On October 2 Standard Oil Co. of California discontinued contracting for purchase of Kern River crude and established following prices on grades run below 14 gravity—11 to 11.9 degrees at 45 cents, 12 to 12.9 degrees at 55 cents and 13 to 13.9 degrees at 65 cents.

CRUDE OIL GRAVITY TABLE

Gravity—	Okla., Kans. N. C. Tex.	No. La. and Arkansas	Smackover, Ark.	Stephens, Ark.	Gray County (Texas Panhandle)	Salt Creek, Wyo.	Grade B & Light Crude (G. Coast)	Somerset (South Central Texas)
	1	2	3	4	5	6	7	8
24 and above	....	....	.90	....	....	....	....	....
Below 24	....	....	.75	....	....	....	....	....
Below 25	.60	....	....	....	....	....	1.15	....
25 to 25.9	.67	....	....	....	....	....	....	....
Below 26	....	....	....	....	....	....	....	....
26 to 26.9	.74	....	....	....	....	....	1.19	....
27 to 27.9	.81	....	....	....	....	....	1.21	....
Below 28	....	.81	....	.75	.68	....	....	....
28 to 28.9	.88	.88	....	.77	.68	....	1.23	....
29 to 29.9	.95	.95	....	.79	.75	.95	1.25	....
30 to 30.9	1.02	1.02	....	.81	.82	1.02	1.27	....
31 to 31.9	1.09	1.09	....	.83	.89	1.09	1.29	....
32 to 32.9	1.16	1.16	....	.85	.96	1.16	1.31	1.05
33 to 33.9	1.21	1.21	....	....	1.01	1.21	1.33	1.07
34 to 34.9	1.26	1.26	....	....	1.06	1.26	1.35	1.09
35 to 35.9	1.31	1.31	....	....	1.11	1.31	1.37	1.11
36 to 36.9	1.36	1.36	....	....	1.16	1.36	....	1.13
37 to 37.9	1.41	1.41	....	....	1.21	1.41	....	1.15
38 to 38.9	1.46	1.46	....	....	1.26	....	....	1.17
39 to 39.9	1.51	1.51	....	....	1.31	....	....	....
40 to 40.9	1.56	1.56	....	....	1.36	....	....	....
41 to 41.9	1.61	1.61	....	....	1.41	....	....	....
42 to 42.9	1.66	1.66	....	....	1.46	....	....	....
43 to 43.9	1.71	1.71	....	....	1.51	....	....	....
44 and above	1.76	1.76	....	....	1.56	....	....	....

Column 1—Magnolia Petroleum Co. posted schedule August 2, 1928, making price below 25 gravity 60 cents per barrel, 25-25.9 gravity 67 cents, 26-26.9 gravity 74 cents, and 27-27.9 gravity 75 cents, 30-30.9, 90 cents, and 31-31.9, $1.05, with balance of the price schedule as shown.

Oklahoma—Prairie Oil & Gas Co., Sinclair Oil & Gas Co., Gypsy Oil Co., Carter Oil Co. The Texas Company, July 26.

North Central Texas—[Including Ranger, Mexia, Powell, Richland, Wortham, Lytton Springs (Southwest Texas), Iatan and Panola (Iatan posted at flat price of 93 cents by Magnolia on January 14, 1928).] Currie, Nocona and Moran, Prairie, Sinclair and Gulf; The Texas Company, Humble Oil & Refining Co., July 26.

Kansas—Prairie, Sinclair; Carter, The Texas Company, July 26.

Column 2—Arkansas and North Louisiana—[Caddo, Bull Bayou, Crichton, De Soto, Haynesville, Homer and El Dorado only], Standard Oil Co. of Louisiana, Louisiana Oil Refining Co., and Gulf Refining Co., August 2. Magnolia Petroleum Co. schedule effective August 7 applies to Pine Island, Haynesville, Bull Bayou, Louisiana, and El Dorado, Ark., light crude. The Texas Company August 8 posted prices below 28 gravity at 7 cents differential per degree with minimum of 60 cents for all below 25 gravity.

Column 3—February 6, Louisiana Oil Refining Co. February 7, Standard Oil Co. of Louisiana, The Texas Company, Gulf Refining Co., Magnolia Petroleum Co. February 8, and on February 16, Atlantic Production Co.

Column 4—Atlantic Oil Producing Co., Louisiana Oil Refining Corp., August 8.

Column 5—Humble Oil & Refining Co., July 26.

Column 6—Midwest Refining Co., July 26. All crude over 37 gravity, $1.41 per barrel.

Column 7—Humble Oil & Refining Co. and other major buyers (schedule ends 35 and above), March 14, with exception of Magnolia Petroleum Co., which stops at 31 degrees gravity. Sun Pipe Line Co. and The Texas Company posted 2 cents differential for each degree above 35 gravity and $1.47 for 40 gravity and above.

Column 8—Grayburg Pipe Line Co. and Pioneer Oil & Refining Co., April 7.

CRUDE OIL PRICES

OKLAHOMA, KANSAS, NORTH AND EAST CENTRAL TEXAS

Corsicana heavy (March 14, 1927)*.... $1.00
Other fields.....See gravity table

*Posted by Magnolia Petroleum Co.

TEXAS PANHANDLE
Carson and Hutchinson

Below 33 gravity .....$ .69
32-32.9 ..... .76
33-33.9 ..... .81
34-34.9 ..... .86
35-35.9 ..... .91
36-36.9 ..... .96
37-37.9 ..... 1.01
38-38.9 ..... 1.06
39-39.9 ..... 1.11
40-40.9 ..... 1.16
41-41.9 ..... 1.21
42-42.9 ..... 1.26
43-43.9 ..... 1.31
44 and above 1.36

Wheeler County

Below 30 gravity.....$ .65
30-30.9 ..... .72
31-31.9 ..... .79
32-32.9 ..... .86
33-33.9 ..... .91
34-34.9 ..... .96
35-35.9 ..... 1.01
36-36.9 ..... 1.06
37-37.9 ..... 1.11
38-38.9 ..... 1.16
39-39.9 ..... 1.21
40-40.9 ..... 1.26
41.41.9 ..... 1.31
42-42.9 ..... 1.36
43-43.9 ..... 1.41
44 and above 1.46
Gray County.....See gravity table

Humble Oil & Refining Co. and Magnolia Petroleum Co., July 26.

Iatan*..... Same as North Texas
Crane-Upton-Crockett, Pecos, Winkler and Glasscock (July 26)‡.....$ .65
Chalk† ..... .80

*Includes Howard County and Westbrook Fields. Marland Refining Co. pays $1.05 for Howard County crude, effective May 21.
†Magnolia Petroleum Co., January 14, 1928.
‡Posted by Humble Oil & Refining Co., Magnolia Petroleum Co. and Gulf Pipe Line Co.

ARKANSAS-NORTH LOUISIANA

Cotton Valley (Below 36 gravity April 11) .....$ .75
Bellevue (Feb. 27, 1927)..... 1.25
Urania (July 17, 1928)..... .85
East El Dorado (March 16, 1927)..... 1.00
Other fields.....See gravity table

*Cotton Valley crude above 36 gravity takes same gravity price schedule as shown for North Louisiana and Arkansas crude in Mid-Continent gravity price table.

Note—Cotton Valley and Bellevue, Standard Oil Co. of Louisiana, Louisiana Oil Refining Co., Gulf Refining Co. and Magnolia Petroleum Co.; (Magnolia Petroleum Co. posted Cotton Valley February 8); Urania, Louisiana Oil Refining Corp.; East El Dorado, Magnolia Petroleum Co., Gulf Refining Co.

GULF COAST

(Goose Creek, Hull, Liberty, West Columbia, Orange, Boling, Sour Lake, Humble, High Island, Pierce Junction and Spindletop.)

Grade A (March 14)*.....$1.20
Grade B.....See gravity table
Jennings, La. (March 14)†.....$1.05
Saratoga, Batson, Daytona (March 14, 1927)‡ 1.20
Markham (March 14)§..... 1.06

*Humble Oil & Refining Co. and other major buyers. †Gulf Pipe Line Co. ‡Sun Pipe Line Co. §The Texas Company.

SOUTH CENTRAL AND SOUTH-WESTERN TEXAS

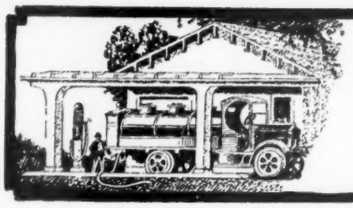
Luling (May 5)*.....$1.00
Mirando (March 14)† 1.00
Rockdale-Minerva (April 16):
Below 38 gravity 1.25
38-38.9 gravity 1.27
39-39.9 gravity 1.29
40 and above 1.31
Thrall‡ .....
Callihan (May 15) 1.75
Lytton Springs (Lockhart).See gravity table
Somerset.....See gravity table

*Posted by Magnolia Petroleum. Thrall prices same as North Central Texas less 19¼ cents per cwt. freight.
†Magnolia Petroleum Co., Humble Oil & Refining Co., Crown Central Pipe Line Co.

ROCKY MOUNTAIN STATES
Ohio Oil Co.-Midwest Refining Co.
(Effective July 27, 1928)

Rock Creek, Wyo. $1.83
Salt Creek .....See gravity table

(Continued on Page 158)



TANK WAGON MARKETS

Tank wagon quotations for gasoline and kerosene in United States as furnished by the larger marketing concerns Oct. 9.

ALL TANK WAGON AND SERVICE STATION QUOTATIONS INCLUDE TAXES

STANDARD OIL CO. (INDIANA)

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax of	tank wagon
Chicago dist.	15.0	17.0	...	12.0
Decatur, Ill.	15.2	17.2	...	12.1
East St. Louis	14.4	16.4	...	11.2
Joliet	15.4	17.4	...	12.3
Peoria	15.2	17.2	...	12.1
Quincy	15.2	17.2	...	11.9
Davenport, Ia.	18.5	20.5	3.0	12.3
Des Moines	18.5	20.5	3.0	12.3
Keokuk	18.5	20.5	3.0	12.3
Sioux City	18.1	20.1	3.0	11.9
Duluth, Minn.	18.5	20.5	2.0	12.9
Mankato	18.1	20.1	2.0	12.7
Minneapolis	18.2	20.2	2.0	12.9
La Crosse, Wis.	18.2	20.2	2.0	13.0
Milwaukee	17.1	19.1	2.0	11.9
Madison	17.3	19.3	2.0	12.1
Detroit, Mich.	18.8	20.8	3.0	13.7
Grand Rapids	18.7	20.7	3.0	13.6
Saginaw	18.9	20.9	3.0	13.8
Evansville, Ind.	18.0	20.0	3.0	13.0
Fort Wayne	18.4	20.4	3.0	13.4
Indianapolis	18.2	20.2	3.0	13.2
South Bend	18.4	20.4	3.0	13.4
Fargo, N. D.	19.9	21.9	2.0	14.9
Huron, S. D.	20.3	22.3	4.0	13.7
Sioux Falls	19.1	21.1	4.0	13.4
K. C., Mo.*	17.9	19.9	3.0	10.6
Springfield*	17.8	19.8	3.0	11.5
St. Louis*	16.9	18.9	2.5	11.3
St. Joseph*	17.5	19.5	3.0	11.2
Wichita, Kans.	15.8	17.8	2.0	10.8
Bartlesville, Ok.	16.5	18.5	3.0	10.5

*State tax 2 cents: remainder city tax.

NAPHTHA

	Tank wagon	Tank car
Oleum spirits	14.7	12.9
V. M. & P. naphtha	16.2	13.9
Cleaner's naphtha	18.0	14.9
Stanisol	19.0	15.4

Tank wagon prices f.o.b. Chicago; tank car prices f.o.b. Whiting.

STANOLIND FURNACE OIL IN CHICAGO

Less than 100 gallons	9.0
100 to 799 gallons	8.0
800 or more gallons	7.5

Note—Outside Chicago furnace oil discount of 1 cent per gallon is given on deliveries of 100 to 349 gallons and 1½ cents on deliveries of 350 gallons or more.

The following quantity discounts from the service station price are allowed on monthly sales of gasoline: 2,000 gallons or less, 2 cents; more than 2,000 and less than 6,000 gallons, 2½ cents; more than 6,000 gallons, 3 cents. Discounts are allowed each month, and they are not cumulative. Delivery tickets showing date and quantity delivered must be sent to the seller before the tenth of the month to secure the discount on the previous month's purchases.

SOUTHWESTERN DISTRICT

Magnolia Petroleum Co.*

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax of	tank wagon
Dallas, Tex.	16 0	20 0	2 0	11.0
Fort Worth	16 0	19 0	2.0	11 0
Houston	16 0	20.0	2 0	15 0
San Antonio	14.0	17 0	2 0	10 9
El Paso	17 0	20 0	2.0	16 0
Texarkana	16 5	20 5	2.0	12 0
Muskogee, Ok.	18.0	20.0	3.0	11.0
Okla. City	18.0	20 0	3 0	11 0
Tulsa	17 0	19 0	3.0	11 0
Ft. Smith, Ark.	19 0	21 0	3 0	12 0
Little Rock	21.0	23 0	5.0	12.0

NEBRASKA

Standard Oil Co. (Nebraska)

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax of	tank wagon
Omaha	17.25	19.25	2.0	12.25
McCook	18.75	20.75	2.0	13.75
Norfolk	17.75	19.75	2.0	12.75
N. Platte	18.75	20.50	2.0	13.50
Scotsbluff	18.75	20.75	2.0	13.25

ROCKY MOUNTAIN DISTRICT

Continental Oil Co.

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax of	tank wagon
Denver, Colo.	19.0	22.0	3.0	14.5
Pueblo	19.0	22.0	3.0	14.5
Grand Junction	22.5	25.5	3.0	18.0
Casper, Wyo.	19.0	22.0	3.0	13.9
Cheyenne	20.0	23.0	3.0	14.5
Butte, Mont.	23.5	26.5	3.0	19.0
Helena	23.5	26.5	3.0	19.0
Salt Lake, Utah	22.0	25.0	3.5	17.0
Albu'que, N. M.	22.0	25.0	5.0	17.0
Boise, Idaho	24.5	27.5	4.0	19.0
Twin Falls	24.5	27.5	4.0	19.0

SOUTHERN DISTRICT

Standard Oil Co. (Kentucky)

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax of	tank wagon
Atlanta, Ga.	22 0	24.0	4.0	16 5
Augusta	22 0	24 0	4 0	15 5
Macon	22.0	24.0	4 0	16 5
Savannah	21 0	21 0	4 0	14.5
Birm'ham, Ala.	20 0	22 0	4.0	14.0
Mobile	22.0	24 0	4.0	16 0
Montgomery	23 0	25 0	4 0	16 5
Clarks'le, Miss.	21.0	23.0	4.0	13.0
Jackson	21.0	23.0	4.0	14.5
Natchez	20.5	22.5	4.0	14.0
Gulfport	22.5	24.5	4.0	14.0
Vicksburg	20.5	22.5	4.0	14.0
Jack'ville, Fla.*	22.0	24.0	5.0	13.5
Miama*	23.0	25.0	5.0	15.5
Pennacola*	22.0	25.0	5.0	13.5
Tampa	22.0	24.0	5.0	13.5
Lexington, Ky.	21.0	23.0	5.0	15.5
Covington	22.0	22.0	5.0	15.5
Louisville	21.0	23.0	5.0	15.0

*Note—Florida station prices have been 2 cents above tank wagon prices in respective points since July 30 as shown above.

In addition to the state tax of 4 cents on gasoline, Montgomery has city tax of 1 cent on gasoline. Kerosene prices in Georgia include 1-cent tax. In Florida, an inspection fee of 0.125 cent; in Alabama, an inspection fee of one-half cent on kerosene only. Pensacola tax includes 1-cent city levy. Gulfport tax includes privilege tax of 2 cents in addition to state tax.

ATLANTIC COAST DISTRICT

Standard Oil Co. (New Jersey)

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax of	tank wagon
Atlantic City	18.0	20.0	2.0	14.0
Newark, N. J.	18.0	20.0	2.0	14.0
Annapolis, Md.	21 0	23 0	4 0	14.0
Baltimore	21.0	23.0	4.0	11.0
Cumberland	21 0	23 0	4 0	14 0
Washington	19 0	21 0	2 0	14.0
Danville, Va.	22 0	.	5 0	14 0
Norfolk	19 0	20 0	5 0	14 0
Petersburg	22 0	24 0	5 0	14 0
Roanoke	22.0	24.0	5 0	14 0
Richmond	22 0	24 0	5 0	14 0
Ch'rist'n, W. V.	21 0	23 0	4 0	14 0
Keyser	21.0	23 0	4 0	14 0
Parkersburg	21 0	23 0	4 0	14.0
Wheeling	21.0	23 0	4 0	14 0
Charlotte, N. C.	21 0	23 0	4 0	14 0
Hickory	21 0	23 0	4 0	14 0
Ht. Airy	21.0	23 0	4 0	14 0
Salisbury	21.0	23 0	4.0	14 0
Charleston, S.C.	22 0	24 0	5 0	14 0
Columbia	22.0	24 0	5.0	14.0

NEW YORK AND PART OF NEW ENGLAND DISTRICT

Standard Oil Co. (New York)

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax of	tank wagon
Albany, N. Y.	18.0	20.0	...	15.0
New York*	18.0	20.0	...	15.0
Buffalo	18.0	20.0	...	14.0
Rochester	18.0	20.0	...	14.0
Syracuse	18.0	20.0	...	15.0
Boston, Mass.	18.0	20.0	...	15.0
Augusta, Me.	22.0	24 0	4 0	15 0
Manch't'r, N.H.	22.0	24 0	4 0	15 0
Burlington, Vt.	21.0	23.0	3.0	16.0

*Prices in steel barrels.

CENTRAL SOUTH DISTRICT

Standard Oil Co. (Louisiana)

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax of	tank wagon
N. Orleans, La.*	17.5	19.5	3.0	16.0
Baton Rouge	16.0	18.0	2.0	14.5
Alexandria	17.0	19.0	2.0	16.0
LaFayette	17.0	19.0	2.0	15.5
Lake Charles	17.5	19.5	2.0	16.0
Shreveport	17.5	19.5	2.0	15.0
Knoxv'le, Tenn.	21 0	21.0	3 0	16 0
Memphis	19 0	21.0	3 0	15 0
Chattanooga	20.5	22.5	3.0	16.0
Nashville	20.0	22.0	3.0	16.0
Bristol	21.0	23.0	3.0	15.0
Lit. Rock, Ark.	21.0	23.0	5.0	14.0

*Tax of 3 cents includes city tax of 1 cent. Louisiana kerosene prices include 1-cent state tax and 1-cent parish tax.

PACIFIC COAST TERRITORY

Standard Oil Co. (California)

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax of	tank wagon
San Francisco	17.0	21.0	3.0	15.5
Los Angeles	16.5	20.5	3.0	15.5
Reno, Nev.	22.0	26.0	4.0	19.0
Portland, Ore.	17.5	21.5	3.0	16.5
Seattle, Wash.	16.5	20.5	3.0	16.5
Tacoma	16.5	20.5	3.0	16.5
Spokane	20.5	24.5	3.0	20.5
Phoenix, Ariz.	18.0	22.0	4.0	20.5

PENNSYLVANIA-DELAWARE AND PART NEW ENGLAND

The Atlantic Refining Co.

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax of	tank wagon
Pittsburgh, Pa.	17 0	*22 0	...	15 0
Philadelphia	17 0	*22 0	...	15 0
Scranton	17 0	*22 0	...	15.0
Allentown	17 0	*22 0	...	15 0
Altoona	17 0	*22 0	...	15 0
Erie	17 0	*22 0	...	15.0
Dover, Del.	20 0	22 0	3 0	15 0
Wilmington	20.0	22 0	3.0	15 0
Springf'd, Mass.	18.0	20.0	...	15.0
Worcester	18.0	20.0	...	15.0
Boston	18.0	20.0	...	15.0
Providence, R.I.	20.0	22.0	2.0	15.0
Hartford, Conn.	20.0	22.0	2.0	14.0
New Haven	20.0	22.0	2.0	15.0

*Includes tax of 3.0 cents. Pennsylvania tax is collected by the dealer and paid by him direct to the State.

OHIO

Standard Oil Co. (Ohio)

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax of	tank wagon
All Ohio points	19.0	20.0	3.0	14.5

TANK WAGON CHANGES

September 16 — Magnolia Petroleum Co. reduced the gasoline tank wagon and station prices 1 cent in Fort Smith, Ark., to 18.0 and 20.0 cents.

September 12 — Magnolia Petroleum Co. reduced the kerosene price 1 cent in Tulsa to 10 cents and advanced it 1 cent in Oklahoma City and Muskogee, Okla., to 12.0 cents.

CRUDE PRICE CHANGES

October 2—Standard Oil Co. of California announces it will discontinue at once contracting for the purchase of Kern County crude oil of under 14 degrees gravity. Crude oil under 14 degrees gravity as the company may purchase on daily runs will be paid for at the following prices:

	Cents
11 to 11.9 degrees gravity	45
12 to 12.9 degrees gravity	55
13 to 13.9 degrees gravity	66

TEXAS COMPANY ADDS TO MARKETING FACILITIES

NEW YORK, Oct. 8.—Further progress in the general expansion program recently undertaken by The Texas Corporation is seen in the ratification by Galena Signal Oil Co. stockholders of the sale of the assets of Galena Signal Oil Co. of Texas, a subsidiary, to The Texas Corporation.

The deal with Galena of Texas involves approximately $5,500,000. The properties are not all in Texas, including as they do terminals at tidewater at Houston, New Orleans, Mobile, Jacksonville, Wilmington, N. C., Atlanta, Bayway, East Cambridge, Mass., and interior bulk stations at Cincinnati and East St. Louis, in addition to three service stations at Houston. Most of the physical properties taken over in the Galena deal are expected to be utilized by Texas Corporation.

Of particular importance to Texas Corporation is the Galena refinery located on the Houston ship canal. The refinery has been operated irregularly by Galena Signal Oil of Texas during recent years. While there has been no official announcement on the subject, it is expected that The Texas Corporation will add the plant to its chain of refineries. The deal is in line with the policy of the larger companies to secure tidewater loading and refining facilities as near as possible to the West Texas oil fields. The Texas Corporation is now building, through a subsidiary, a trunk pipe line which will move West Texas oil, and the Galena acquisition fits in nicely with this phase of the company's development operations. Other assets involved in the Galena deal which can be utilized by Texas in its program are tank farms located at Houston and Mexia, Tex., and a short pipe line running from the Humble Field to the refinery at Houston.

Market Facilities

Galena properties consolidated with The Texas Corporation interests have materially aided the latter in adding to its producing and refining facilities, as well as developing its marketing organization both at home and abroad. The company some time ago purchased from the parent Galena Signal Oil Co. of Pennsylvania its French subsidiary, including a bulk terminal at Rouen.

The company also purchased the Galena subsidiary operating in Ireland, with a Dublin terminal. The Texas Corporation has also acquired a substantial volume of contract business on refined products in the Argentine and Brazil. These two latter markets have come in for considerable interest by American oil companies recently, Tide Water Oil Co. having just entered the field in both countries. Galena Signal Oil Co. of Pennsylvania also sold to Texas Corporation two tank steamers used exclusively for the movement of bulk lubricating oil.

CRUDE OIL PRICES

(Continued from Page 157)

Big Muddy	1.33
Grass Creek, heavy	.90
Grass Creek, light	1.48
Mule Creek (May 1)	1.10
Elk Basin	1.48
Lance Creek	1.48
Poison Spider (March 14, 1927)	1.00
Notches (March 14, 1927)	.65
Rex Lake (February 22)	1.10
Osage	1.48
Lost Soldier (contract)	.95
Hamilton Dome (March 14, 1927)	.85
Greybull-Torchlight	1.48
Cat Creek (Montana)	1.48
Sun' urst (Montana) (May 18, 1928)	1.65
Artesia	1.08
Hogback (New Mexico)	1.48

Note—Salt Creek, Osage, Cat Creek, Greybull and Hogback posted by Midwest Refining Co., and the remainder by the Ohio Oil Co. Both companies post Grass Creek light and Elk Basin.

EASTERN STATES

Joseph Seep Purchasing Agency
(Effective Sept. 14, 1928)

Penna Grade Oil in New York Transit Lines (New York)	$3.35
Bradford District Oil in National Transit Lines (Pennsylvania)	3.35
Penna Grade Oil in National Transit Lines (Pennsylvania)	3.25
Penna Crude Oil in Southwest Pennsylvania Lines (West Virginia)	3.25
Penna Grade Oil in Eureka Pipe Line Lines (Pennsylvania)	3.15
Penna Grade Oil in Buckeye Pipe Line Lines (Ohio)	3.00
Cabell Grade Oil in Eureka Pipe Line Lines (West Virginia) (July 13)	1.45
Corning 35-cent Grade Oil in Buckeye Pipe Line Co.'s lines (August 8)	1.70
Corning 25-cent Grade Oil in Buckeye Pipe Line Co.'s lines (Aug. 8)	1.80
Somerset Oil in Cumberland Pipe Line lines (Kentucky) (Sept. 14, 1928)	1.75
Ragland Grade Oil in Cumberland Pipe Line lines (Kentucky) (August 1)	.95

MIDDLE WESTERN STATES

Ohio Oil Co.
(Effective July 27, 1928)

Lima	$1.60
Wooster	1.67
Illinois	1.55
Indiana	1.37
Princeton	1.55
Plymouth	1.28
Waterloo (November 17, 1926)	1.35
Western Kentucky* (Sept. 17, 1928)	1.63
Saginaw, Mich., Saginaw Sand (February 10)†	1.80
Saginaw, Mich., Berea Sand (February 10)†	1.79
Cumberland, Clay, Barren, Clinton and Monroe Counties, Kentucky (March 16)‡	1.50
Oil in lines of Stoll Oil Refining Co. in Oil City, Ky. (Oct. 1, 1928)§	1.75
Oil Springs (Canada)¶	2.07
Petrolia (Canada)¶	2.00

*Posted by Ohio Oil Co.
†Posted by Sun Oil Co.
‡Posted by Paragon Development Co.
§Posted by Stoll Oil Refining Co.
¶Posted by Imperial Oil Co., Ltd.

MEXICAN CRUDE

Panuco heavy (f.o.b. Mexican ports)	$1.18

Note—Due to the fact that the exportation of Tuxpam light crude has become a negligible factor, prices will no longer be published.

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Oil Securities Were Quiet During Week

Followed the Trend of the General Industrial List Monday and Sold Off. Rallies Failed to Hold the Decline

The oils were rather quiet during the past week, and on Monday followed the trend of the general industrial list and sold off. The closing was especially weak, with little in the rallies to check the decline which although not severe was general in scope.

Barnsdall was the feature of the week among the oils, making new highs on three successive days. A volume of buying sent this issue to 41½ on Monday. Barnsdall seemed to get plenty of stock at the 40 mark, which it absorbed in easy manner.

Union Oil Co. of California published earnings showing $150,000 less profit for the third quarter of 1928 than in the third quarter of last year but this failed to make any appreciable difference in the stock. The regular dividend of 50 cents per share per quarter on Union of California was declared at the Monday meeting of the company's directors.

Producers & Refiners

Producers & Refiners Corp. and subsidiaries for six months ended June 30, 1928, report loss of $527,703 after expenses, interest and depreciation but before depletion, surrendered leases, abandoned wells and extraordinary losses, comparing with loss of $603,556 in the first six months of 1927.

The consolidated income account for six months ended June 30, 1928, compares as follows:

	1928	1927
Gross operating profit	$1,447,586	$1,360,544
Expenses	347,455	393,805
Net earnings	$1,100,131	$966,739
Other income	42,652	27,832
Total income	$1,142,783	$994,571
Interest	462,472	462,022
Depreciation	1,208,014	1,136,105
*Loss	$527,703	$603,556

*Before depletion, surrendered leases, abandoned wells and extraordinary losses.

Italo Petroleum

Italo Petroleum Corp.'s first certified pro forma earnings statement shows gross income of $354,182 for July.

Pro forma balance sheet shows assets of $21,795,980, with properties valued at $16,980,506. The latter, according to the company, represents 50 per cent of the appraisals of independent engineers. Current assets total $939,335, of which $129,208 in cash, against current liabilities of $130,218. There are liabilities to be assumed on acquisition of properties not to exceed $2,750,000. Capital stock to be outstanding, on completion of financing for the purpose of acquiring additional properties, aggregates $15,900,000 par value.

Southwest Pennsylvania Pipe Lines

Southwest Pennsylvania Pipe Lines stockholders voted to reduce capital stock to $1,750,000, from $3,500,000, and to change the par value to $50, from $100. Southwest Pennsylvania Pipe Line has authorized a cash distribution of $15 a share from capital stock reduction, payable to stock of record November 15.

Pantepec Oil

Consolidated balance sheet of Pantepec Oil Co. of Venezuela and subsidiaries as of June 30, 1928, follows:

Assets: Cash $277,770; accounts and advances receivable $136,235; concessions and interest in concessions, $20,899,646; furniture, fixtures, equipment, etc., $28,808; deferred charges, $4,602; total $21,347,060.

Liabilities: Liability on properties, $172,901; property taxes and liabilities $89,473; capital stock represented by 1,506,600 no-par shares $21,084,686; total $21,347,060.

Deutsche Gasoline

Deutsche Gasoline Co., in which Standard Oil Co. of New Jersey has a 25 per cent interest and the balance of which is controlled by I. G. Farben and Royal Dutch Co., for the year ended March 31, last, reports net profit of 85,630 marks, compared with a loss of 2,711,000 marks the previous year. The profit was only realized by advances made by principal stockholders.

Barnsdall Corporation

Barnsdall Corp. declared a cash dividend of 50 cents, payable October 31 to stock of record October 10. Dividends were passed in March, 1928, prior to which two quarterly payments of 2½ per cent each in stock were made. Before the payments in stock the issue was on a $2.50 yearly cash basis.

Mid-Continent Petroleum

Directors of Mid-Continent Petroleum Corp. will meet in New York on October 10. This will be the first meeting of the board since August 20. Jacob France, president, has returned from Europe and will preside at the meeting. It is said the earnings statement for the third quarter will show larger net than for the first half of the year, when the company and subsidiaries reported a profit of $3,248,666 after interest, amortization, abandoned and surrendered leaseholds, but before depreciation, depletion and Federal taxes.

Richfield Oil

Richfield Oil Co declared regular quarterly dividend of 50 cents on common, payable November 15 to stock of record October 20.

Petroleum Securities Co.

J. C. Anderson, former president of Pan American Western Petroleum Co., has resigned as vice president in charge of production of the Petroleum Securities Co., owned by the E. L. Doheny family. Since controlling interests of Pan American Western passed to Richfield Oil Co., Mr. Anderson has been assisting Richfield officials in closing the affairs of the company and all matters are now being handled from Richfield office.

OIL BONDS ON THE NEW YORK CURB

Quotations Compiled by Francis, Bro. & Co., Members New York Stock Exchange
Kennedy Bldg., Tulsa, Okla.

Amount outstanding	Company—	Date	Pct.	Int.	Week Ended October 5 Sales	High	Low	Close
11.603.000	American Nat. Gas Co.	Oct. 1942	6½	A&O	No sales.			
3.000.000	Beacon Oil Co.	Nov. 1936	6	M&N	6,000	105½	104	104½
15.900.000	Cities Service deb.	Jan. 1966	6	M&N	1,900	103½	103½	103½
15.000.000	Cities Serv. refunding deb.	Jan. 1966	5	M&S	5,500	95	93⅝	95
24.843.700	Cities Service Gas Co.	May 1942	5½	M&N	3,200	93½	93½	93½
12.000.000	Cities Service Gas P. L. Co.	Jan. 1943	6	J&J	2,000	99½	99	99¼
12.000.000	Continental Oil Co.	Nov. 1937	5¼	M&N	4.000	95	95	95
3.000.000	Dixie Gulf Gas Co. A	Sept. 1937	6½	M&S	2,100	92½	91	91½
18.000.000	Empire Oil & Ref. Co.	Apr. 1942	5½	A&O	10,000	92¾	92¼	92½
3.877.100	Galena Signal Oil Co.	Apr. 1930	7	A&O	200	100⅝	100⅝	100⅝
30.904.000	Gulf Oil of Pa.	Dec. 1937	5	J&D	2,200	100⅝	100¼	100⅝
12.000.000	Gulf Oil of Pa. debs.	Feb. 1947	5	F&A	3,000	100½	100¼	100⅜
4.000.000	Houston Gulf Gas	Apr. 1943	6	A&O	4,800	96½	95½	96⅛
4.000.000	Houston Gulf Gas	Apr. 1943	6½	A&O	3,600	95⅝	94⅝	94⅝
6.339.000	Independent Oil & Gas	Mar. 1939	6	M&S	9,000	103½	103	103
15.000.000	Lone Star Gas Co.	May 1942	5	M&N	2,800	98⅝	98	98⅝
11.650.000	Richfield Oil Co.	Sept. 1941	6	M&S	1,400	140	135	140
1.427.000	Richfield Oil Co.	Jan. 1931	5½	J&D	2,200	102⅞	104¼	102½
9.733.000	Sun Oil Co.	1939	5½	M&S	2,000	100⅞	100½	100½
4.000.000	Transcontinental Oil Co.	Apr. 1930	7	A&O	No sales.			
2.500.000	Warner-Quinlan Oil Co.	1942	6	A&O	16.000	113⅞	110	111⅝

OIL BONDS ON THE NEW YORK STOCK EXCHANGE

Quotations Compiled by Francis, Bro. & Co., Members New York Stock Exchange
Kennedy Bldg., Tulsa, Okla.

Amount outstanding	Company—	Date	Pct.	Int.	Week Ended October 5 Sales	High	Low	Close
.....	Atlantic Refining Co.	July 1937	5	J&J	3.000	101½	101¼	101⅜
18.364.500	Barnsdall Oil war.	Dec. 1940	6	J&D	1,411,000	128⅝	119¼	122
6.000.000	Barnsdall Oil without war.	Dec. 1940	6	J&D	751,000	93⅜	92¾	93⅛
11.400.000	California Pet. conv. deb.	Nov. 1938	5½	M&N	63.000	103	102	103
7.400.000	California Pet. conv. deb.	Feb. 1939	5	F&A	34,000	102	101⅛	101⅝
.....	General Petroleum	Aug. 1940	5	F&A	5.000	100½	100⅛	100⅜
25.000.000	Humble O. & R. deb.	July 1932	5½	J&J	45.000	101¼	101	101⅛
24.239.000	Humble O. & R. deb.	Apr. 1937	5	A&O	52.000	100	99⅜	99⅝
10.103.000	Mid-Cont. Pet. Corp.	Mar. 1940	6½	M&S	5,000	105½	105	105
3.745.000	Pan-American Pet. & T.	Aug. 1930	7	F&A	No sales.			
10.161.900	Pan-American Pet. & T.	Nov. 1934	6	M&N	10,000	103¼	103	103⅛
40,000,000	Phillips Pet.	June 1939	5¼	J&D	30,000	93¼	92⅞	93
.....	Pierce Oil deb.	Dec. 1931	8	J&D	1.000	104⅛	104⅛	104⅛
.....	P. & R. Corp. without war.	June 1931	8	J&D	4.000	110⅜	110⅜	110⅜
20.000.000	Pure Oil	Aug. 1937	5½	F&A	46.000	100¼	100	100¼
30.000.000	Shell Pipe Line Co.	Nov. 1952	5	M&N	28.000	96	95⅜	96
60.000.000	Shell Union Oil Co.	May 1947	5	M&N	74.000	98	97½	97¾
3.431.500	Simms Pet. Co.	Nov. 1929	6	M&N	145.000	101¼	100¼	100¼
44.816.500	Sinclair Co. Oil Co. A	Mar. 1937	7	M&S	88,000	102⅛	101⅝	102
23.086.500	Sinclair Co. Oil Co. B	Mar. 1938	6½	J&D	52.000	100¼	99⅛	100
20,000,000	Sinclair Co. Oil Co. D	Sept. 1930	6	M&S	51.000	99	98⅜	99
.....	Sinclair Cr. Oil Pur. Co. A	Jan. 1938	5½	J&J	180.000	97⅜	97⅛	97⅛
.....	Sinclair Pipe Line Co.	Oct. 1942	5	A&O	15.000	94¼	95⅜	94¼
15.000.000	Skelly Oil Co.	Mar. 1939	5½	M&S	25.000	94	93	94
.....	Standard Oil of N. J.	Dec. 1946	5	F&A	103.000	102⅞	102⅜	102⅞
.....	Standard Oil of N. Y.	Dec. 1951	4½	J&D	238.000	96⅛	95⅜	96⅛
.....	Union Oil of Calif.	Jan. 1931	5	J&J	1.000	101¼	101⅛	101⅛
8.934.500	Union Oil of Cal. 20 yr. A	May 1942	6	F&A	4.000	109⅜	109⅜	109⅜
9.419.000	Union Oil of Cal. series C	Feb. 1935	5	A&O	7.000	98⅜	98	98
4.870.000	White Eagle Oil & Ref.	Mar. 1937	5½	M&S	2.000	98⅜	98⅜	98⅜

INDEPENDENT OILS ON NEW YORK CURB

Quotations Compiled by Francis, Bro. & Co., Kennedy Building, Tulsa, Okla.
Members New York Curb Market

1926 High	1926 Low	1927 High	1927 Low	1928 High	1928 Low	Par value	Stocks	Week Ended October 5 Sales	First	High	Low	Last	Change
$6.75	.45	2⅞	.55	1½	.66	$5	Amer. Con. Oilfields	6,700	..	73	68	69	—3
..	..	7½	2¾	6⅝	3⅛	N.P.	Amer. Maracaibo	3.000	4⅞	4⅞	4½	4½	—⅜
..	..	2¾	1	4½	2¼	$10	Argo Oil	100	2¾	2¾	2¾	2¾	+1¼
85¼	60	40	20½	42	32¾	N.P.	British American	No sales.					
28⅜	9¼	28¼	15½	23⅞	12½	25c	Carib. Syndicate (new)	800	14½	14½	13½	14	—½
..	..	58¾	40¼	71	54	$20	Cities Service	88.900	68⅛	72⅛	68⅞	72	+3⅝
..	..	95⅜	87	103½	94½	100	Cities Service, pfd.	1,800	99¾	100¼	99½	100¼	+⅝
..	..	8⅞	7⅝	9⅝	8⅞	10	Cities Service, pfd. B	200	9⅜	9⅜	9⅜	9⅜	+⅝
3½	1⅜	3⅞	1⅛	2¼	1 1/16	1	Colombia Syndicate	5,800	1 1/16	1 1/16	1⅛	1¼	.....
..	..	9¾	6⅜	8⅛	6½	10	Consolidated Royal	100	6¾	6¾	6¾	6¾	.....
16	10	14⅞	9½	17½	10	N.P.	Creole Syndicate	23,600	13¼	13¼	12¼	12½	—⅞
..	..	3	.50	2⅜	.76	N.P.	Crown Central	200	1½	1½	1½	1½	.....
7⅞	6¾	12	4	30⅛	8⅛	N.P.	Darby Petroleum	78 500	22⅝	28½	22⅝	28	+5⅜
..	..	2½	.74	2½	1	N.P.	Derby Oil & Refining	No sales.					
..	..	16⅜	4	15½	7½	N.P.	Derby Oil & Refining, pfd.	No sales.					
..	..	2	.40	.53	.15	N.P.	Gilliland ctfs.	No sales—20@50.					
98	92	118	86¼	148½	101⅛	$25	Gulf Oil Corp.	4 400	125	125	124	124	—1
$3.00	.83	2½	.80	2⅝	1	10	Intercontinental Pet.	89,500	2¼	2⅜	1⅞	2⅛	—⅛
..	..	2¼	1⅛	3	1¼	N.P.	Kirby Petroleum	No sales—1½@2.					
12¼	5¾	10⅞	5⅛	9⅜	5½	N.P.	Leonard Oil & Dev.	9 800	5⅞	6	5⅛	6	.....
27	20	27½	20	33	20	N.P.	Lion Oil & Refining	97,800	38	41	36	38¾	+3⅞
46	30	59¾	37	59⅞	49	$25	Lone Star Gas	1,900	58	58	57	58	.....
2⅞	1	2⅞	.80	1⅞	.50	1	Magdalena Syndicate	27,400	..	1⅛	65	1⅛	+1⅛
34	12½	52	12	45	36½	N.P.	Margay Oil	No sales—34½@39.					
8	5½	12⅛	5	8	4¼	N.P.	Mexico-Ohio Oil	400	4½	4½	4	4	—½
1¾	1⅛	1½	1	1½	.81	$1	Mountain & Gulf	400	85	85	82	83	—2
26	23	29¼	22¾	28⅝	21½	10	Mountain Producers	2,400	22⅜	22⅞	22	22⅞	+⅝
6⅝	5	5⅞	4⅝	5⅝	4¼	5	New Bradford	400	4¾	4¾	4½	4½	—¼
..	..	16	9¼	11⅜	7½	1	New Mex. & Ariz.	1,900	8	9½	7⅜	9⅛	+1⅛
..	..	12¾	9½	13¼	10¾	N.P.	North Central Texas	300	11⅜	11⅜	11⅜	11⅜	—¼
10⅛	5⅞	9⅜	3¼	6	2¼	N.P.	Pandem	1,300	2 1/8	2 1/8	2½	2½	—⅜
12¼	11¾	12½	7	15⅝	8½	N.P.	Pantepec Oil	20,100	14⅜	14½	12⅞	13¾	—¾
22¾	12	13½	5⅛	7⅜	5⅛	$10	Pennok Oil	100	5½	5½	5½	5½	+⅜
17	8½	24⅜	7	14½	9	25	Red Bank Oil	500	11½	11½	11½	11½	.....
30¼	12	15½	3½	12⅞	4⅛	N.P.	Reiter-Foster	1,800	9½	9½	9	9	—¼
7	4½	7	4½	9⅞	4⅝	N.P.	Ryan Consolidated	100	5¾	5¾	5¾	5¾	+½
10	7⅛	8	5¼	7¼	5⅞	$10	Salt Creek Cons.	1,500	5⅞	6	5¾	6	+¼
35	24½	35½	27¼	35	23½	10	Salt Creek Prod.	4,300	26¼	26¾	26	26¾	+⅝
6⅞	1¾	7	1¾	3½	1	5	Savoy Oil	300	1¼	1¼	1¼	1¼	—⅜
27	7⅝	26½	17	22⅞	13	10	Tidal Osage	400	17⅝	17⅝	17⅛	17½	—1¼
25¾	7⅝	23¾	15	21¼	13⅛	10	Tidal Osage, nonvoting	800	17½	17½	16½	16⅝	—1⅝
92	63½	92	63½	87	75	100	Transcontinental, pfd.	No sales—75@80½.					
8	4½	7⅜	4¼	8⅛	4⅞	5	Venezuelan Petrol	87,700	7½	7⅝	7	7⅜	+⅛
36⅛	22	32⅝	19½	25	15¼	N.P.	Wilcox Oil & Gas	900	18	18	16½	17½	+¾
8⅛	5½	8	4⅜	8¼	4⅞	$1	Woodley Petroleum	100	5½	5½	5½	5½	+½
6½	6	6	1¾	8⅝	2⅛	25	Y Oil & Gas (new)	200	4⅛	4½	4⅛	4½	.....

TRANSACTIONS IN OIL SHARES ON NEW YORK STOCK EXCHANGE

Quotations Compiled by Francis. Bro. & Co., Members New York Stock Exchange, Kennedy Building, Tulsa, Okla.

1926 High	1926 Low	1927 High	1927 Low	1928 High	1928 Low	Listed capital	Par value	Stocks—	Div. rate	Last paid	Transactions week ended October 5 Sales	Open	High	Low	Last	Change
32⅞	24¼	37⅝	27⅝	38	27⅛	(sh) 922,975	N.P.	Amerada Corp.	50cQ	July 31, 28	2,600	31⅜	32½	31⅛	32½	+ 1
74	39⅞	82½	35⅛	85	51¼	(sh) 209,180	N.P.	American Republics Corp.	.....	.....	9,600	72	72¼	67½	71¼	+ 1
60	44¾	50¼	35	53⅜	37½	$56,000,000	$25	Associated Oil	50cQ	June 30, 28	100	48	48½	48	48	+ ½
128⅜	97	131⅜	104	184⅝	95¾	50,000,000	100	Atlantic Refining	$1Q	Sept. 15, 28	34,900	184¼	187½	178	180	— 5
33½	23½	35½	20¾	36¼	20	28,725,675	25	Barnsdall Corp. A	...	Feb. 6, 28	447,700	33⅜	40⅝	33⅝	39½	+ 5¼
94¼	50	96⅜	65	94⅞	68	20,785,400	100	General Asphalt	.....	.....	13,300	75	76⅜	73	74	— ⅜
72	50¼	175¾	60⅛	167	119	25,000,000	100	Houston Oil	.....	.....	4,100	140	140	138	138¾	— 3
34	19⅝	32¾	17⅝	32⅜	21¾	(sh) 500,000	N.P.	Independent Oil & Gas	25cQ	July 31, 28	17,000	30½	30¾	29⅝	30	— ½
12⅜	7½	12⅛	7⅝	39⅝	9	$3,280,340	$10	Indian Refining	.....	May 31, 24	16,600	30⅞	31¾	30	30⅜	— ⅞
25⅞	16½	37¾	20½	39⅛	27⅜	(sh) 3,992,122	N.P.	Lago Oil & Transport	.....	May 1, 27	2,400	36	35	33⅝	35	— ½
19⅞	12	18⅛	10	19¾	9⅜	(sh) 1,237,078	N.P.	Lousiana Oil Refining	.....	.....	8,500	15½	15½	14⅝	14⅞	— ¾
28	16½	22¾	12	25½	12½	(sh) 330,000	N.P.	Maracaibo Oil	.....	.....	5,800	18¾	18¼	17½	18	+ ½
63⅜	49¼	58½	31	44½	33	(sh) 2,316,692	N.P.	Marland Oil Co.	.....	Mar. 31, 27	15,500	38⅝	39½	37½	37⅝	— 1
13¾	6	9¼	3	39	4⅝	(sh) 945,939	N.P.	Mexican Seaboard	.....	Dec. 15, 20	500	32⅞	32⅜	30	30⅞	— ⅛
37	20½	39⅜	25½	37½	25⅛	(sh) 1,357,461	N.P.	Mid-Continent Petroleum	.....	Aug. 1, 27	38,100	35	36	34	36	+ 1⅝
104¼	90	105	97	115¼	103¼	$6,718,000	$100	Mid-Continent Petroleum pfd.	$1.75Q	Sept. 1, 28	No sales.					
2½	½	3¾	1⅝	7⅜	2⅜	24,298,850	10	Middle States	.....	July 1, 23	2,400	5⅞	6¼	5⅝	5⅞	+ ⅛
76½	56¼	65⅞	40⅛	53¾	38¼	$48,807,400	$50	Pan American P. & T.	.....	Oct. 20, 27	2,100	47	47¼	45⅛	46⅛	— 1¼
78⅜	56⅞	66⅜	40¼	54⅝	37¾	121,097,900	50	Pan American P. & T. B.	.....	Nov. 15, 24	78,900	48⅞	50¼	46¾	48¼	— ⅝
46	30	37⅞	16¾	28⅜	15½	(sh) 400,000	N P.	Pan American Western B	.....	Jan. 30, 27	2,400	....	17½	17	17¼	+ ⅛
32	4½	18⅞	8	21⅜	11½	(sh) 198,770	N.P.	Panhandle P. & R.	.....	.....	1,200	14½	14½	13½	13½	— ¾
99⅜	51	83	54	106¼	70	$2,935,200	$100	Panhandle P. & R. pfd.	.....	July 2, 23	No sales.					
57⅜	40	60¼	36¼	44⅝	35¼	(sh) 2,406,796	N.P.	Phillips Petroleum	37½Q	Oct. 1, 28	33,900	42½	43¼	41⅛	41⅜	— ⅜
....	....	1⅛	½	5¼	½	$29,622,925	$25	Pierce Oil Corp.	.....	.....	52,000	2¾	4	2¾	3⅞	+ 1
7	2¼	5½	2½	6⅝	3½	(sh) 2,500,000	N.P.	Pierce Petroleum	.....	.....	70,300	5	6⅛	5	5⅞	+ ⅜
20¾	11	33⅞	16¾	28⅝	16	$37,450,850	$50	Producers & Refiners	.....	Sept. 15, 23	3,900	23⅝	24⅜	23½	23⅞	— ⅝
41¾	30¾	50	36⅞	49⅝	41	2,845,350	50	Producers & Refiners pfd.	...	May 1, 25	270	45⅜	45⅜	45	45¼	— ¼
31	25¼	33½	25	27½	19	75,959,350	25	Pure Oil Co.	12½Q	Sept. 1, 28	86,100	24⅛	26	24	25⅞	+ 1⅝
27½	22	28⅝	25⅜	53	23½	$29,224,894	$25	Richfield Oil	.....	Oct. 20, 27	47,100	48½	50¼	48	49¼	— ⅛
57⅜	47⅜	54½	44¼	59½	44⅜	(sh) 611,303	13.40	Royal Dutch, N. Y. shares	$1.879	Aug. 3, 28	5,800	59	59⅞	58½	59⅞	+ ⅜
48⅝	40½	47⅞	41⅜	53	40⅝	(sh) 77,590	£2	Shell Transport & T.	$1.455	July 23, 28	100	53½	53½	53½	53½	+ ½
31	24	31¾	24⅝	31	23¼	(sh) 10,000,000	N.P.	Shell Union Oil	35cQ	Sept. 30, 28	2,600	28½	28¾	27⅜	27⅜	— ¾
28⅝	15⅛	26⅜	14¼	25⅛	18⅛	$7,208,080	$10	Simms Petroleum	.....	Apr. 1, 27	6,500	21½	22½	21¼	21⅜	+ ½
24⅞	16¾	22⅜	15	32¼	17⅜	(sh) 4,501,915	N P.	Sinclair Consolidated	.....	.....	14,900	29⅝	30⅝	28	28¼	— 1⅞
99½	90	104½	97	109½	102½	$16,604,600	$100	Sinclair Consolidated pfd.	$2Q	Aug. 15, 28	600	108	108	108	108	.....
37½	26⅝	37⅝	24⅛	36¾	25	27,396,590	25	Skelly Oil Co.	50cQ	Sept. 15, 28	29,600	35⅛	36	34	35⅞	+ ¼
63⅝	51½	60¾	50⅝	63⅞	53	(sh) 13,016,434	N.P.	Standard Oil of California	62½cQ	Sept. 15, 28	26,200	61	61⅞	59⅝	60½	— ¾
46⅜	37½	41⅜	35⅛	49	37¾	$607,910,525	$25	Standard Oil of New Jersey	25cQ	Sept. 15, 28	55,500	45⅝	46⅛	45⅛	45½	— ⅛
47¼	30⅜	34⅛	29¾	41½	28¾	427,973,275	25	Standard Oil of New York	40cQ	Sept. 15, 28	52,600	35⅜	36	36	35¼	— ½
41⅝	30⅛	34⅞	30	59½	31½	(sh) 1,206,073	N.P.	Sun Oil	25cQ	Sept. 15, 28	2,600	55⅛	55⅛	54	54⅛	— 1⅝
5¼	1	6½	3⅛	9½	2½	(sh) 1,121,368	N.P.	Superior Oil Corp.	.....	Dec. 20, 20	33,400	7⅜	8	7⅛	7⅞	+ ⅛
58	48	58	45	73½	50	$180,480,550	$25	The Texas Corporation	75cQ	Oct. 1, 28	100,000	67⅝	68⅜	66	66⅜	— 1¼
19½	12	18⅞	12	17½	12½	8,380,340	10	Texas Pacific Coal & Oil	.....	Jan. 3, 28	99,400	13⅞	17½	13⅜	16¾	+ 2¾
39¼	27	29⅛	19	30⅝	19⅝	(sh) 2,168,410	N.P.	Tide Water Oil Co.	20cQ	June 30, 28	4,500	29⅜	33½	29¼	33½	+ 3¾
103	87¼	90⅛	85	94½	86	$20,705,200	$100	Tide Water Oil Co. 5% pfd.	$1.25Q	Aug. 15, 28	800	90	92	91½	91½	+ 1½
27	20⅞	19⅛	15¾	25	14¾	(sh) 4,796,158	N.P.	Tide Water Associated	.....	Aug. 1, 27	67,200	22	23	20⅝	22⅝	+ ¾
5½	3	10⅜	3¾	10⅛	7¼	(sh) 3,742,029	N P.	Transcontinental Oil	.....	.....	33,400	8⅜	8⅝	7⅞	7⅞	— ½
58⅜	37¼	56½	39⅝	57	42¾	$40,791,225	$25	Union Oil of California	50cQ	Aug. 10, 28	5,200	50¼	51	49½	49½	— 1½
120⅜	84¼	127½	94	128⅛	116¾	30,844,000	100	Union Tank Car Co.	$1.25Q	Sept. 1, 28	700	111	111	110	111	— 1½
30⅛	23½	34½	24½	42¾	26	(sh) 310,956	N.P.	Warner Quinlan	50cQ	July 2, 28	13,800	39¼	39⅞	38	38⅝	— 1¼
29¾	25⅛	27½	20	29½	20⅛	(sh) 490,000	N.P.	White Eagle Oil & Refining	25cQ	July 2, 28	3,500	27¼	27⅞	26⅞	27	— ½

*Odd lots. ‡Also extras.

STANDARD OIL STOCKS ON NEW YORK CURB

21	16	21⅝	17⅞	22⅜	16⅜	£4,126,460	£1	Anglo-American Oil	24.4c	June 6, 28	2,500	19¼	19⅜	18¾	19	— ⅛
....	....	3¾	¾	5	1¼	(sh) 500,000	N.P.	Atlantic Lobos	.....	.....	1,800	3⅜	3⅝	3¼	3⅝	+ ¼
75	65	69	50	56	48½	1,000,000	25	Borne Scrymser	$18.A.	Apr. 16, 28	50	52	52	52	52	+ ¼
59½	42	60	45	76	53	10,000,000	50	Buckeye Pipe Line	$1Q	Sept. 15, 28	200	67¾	67¾	67½	67½	— ½
82½	65	126	76½	161	117¼	3,000,000	25	Chesebrough Mfg.	$1Q	Sept. 29, 28	No sales—138@141.					
25⅞	17½	22⅝	16¼	23	16	36,057,840	10	Continental Oil	.....	Dec. 15, 27	10,900	18⅜	18¾	17⅛	17⅛	— 1⅛
137	102	137	89	114	88	3,000,000	100	Cumberland Pipe Line	$2Q	Sept. 15, 28	50	95	95	95	95	— 2
63¾	43	68½	47	88	64⅛	5,000,000	100	Eureka Pipe Line	$1Q	Aug. 1, 28	50	71	71	71	71	— ½
32½	9⅞	13½	3½	12	5	16,000,000	100	Galena Signal Oil	.....	June 30, 25	200	6⅝	6¾	6⅝	6¾	— ¼
68⅛	52	68½	54	84¾	60	73,117,577	25	Humble Oil & Refining	30cQ	July 1, 28	72,500	82¼	82½	79	80	— 2
144½	125½	182	123¾	245	176½	20,000,000	100	Illinois Pipe Line	$68.A.	June 15, 28	450	222	221	217	217	— 5
....	....	64¾	37¾	79½	56¾	(sh) 6,458,267	N.P.	Imperial of Canada	25cQ	Sept. 1, 28	1,900	77½	79¾	77	77½	— ½
72½	58	94½	61	89½	74⅞	$5,000,000	$50	Indiana Pipe Line	$1Q	Aug. 15, 28	800	85½	88	85½	87¾	+ 2⅜
35½	28¾	39	28¼	45¼	35	(sh) 17,123,444	N.P.	International Petroleum	25c	June 30, 28	11,700	39	39⅜	37¾	38¼	— ¾
20¾	12½	24	13¼	32¾	20¼	$6,363,350	12.50	National Transit Co.	25cQ	June 15, 28	900	22¼	24¾	21¾	24¼	+ 2⅛
51½	27¼	44½	31¼	59⅛	37½	5,000,000	100	New York Transit	...	July 15, 26	150	57½	59	57½	59	+ 1½
80½	64	100	70	125	94	4,000,000	100	Northern Pipe Line	$38.A.	July 1, 28	100	62	62	62	62	— ¼
67¾	55¾	67⅞	52	68¼	58	60,000,000	25	Ohio Oil Co.	50cQ	Sept. 15, 28	1,200	62¼	62½	61⅜	61½	— ⅝
24¾	15	39	12	84	29	10,000,000	25	Penn Mex. Fuel	$1.25	May 31, 28	2,700	36	48	35	42⅛	+ 6⅛
137½	122½	190	132	223	172	81,000,000	100	Prairie Pipe Line	$3.50	July 31, 28	900	188	188½	185	186	— 2
60¼	48	55½	45⅝	56	46	60,000,000	25	Prairie Oil & Gas	... ..	Aug. 31, 27	2,000	47⅝	48	47	47⅜	— ⅛
220	84½	201½	175½	186	167	4,000,000	100	Solar Refining	$58.A.	June 20, 28	No sales—170@180					
74½	61½	27¼	15½	35⅞	12	5,000,000	50	Southern Pipe Line	$2	Dec. 1, 27	No sales—75½@77					
50	34½	41½	35	53	36¾	2,000,000	25	South Penn Oil	50cQ	Sept. 29, 28	45,400	50¼	63⅞	50¼	62⅞	+12⅝
56	47½	83	55½	100	70	3,500,000	100	Southwest Pa. Pipe Lines	$1Q	July 2, 28	50	81½	81½	81½	81½	.....
70½	60½	81½	64⅝	83⅝	70⅞	228,415,463	25	Standard Oil of Indiana	62½Q	Sept. 15, 28	11,200	76½	77½	76⅛	76⅜	— ⅝
36½	16½	20⅞	14⅝	27¾	15	8,000,000	25	Standard Oil of Kansas	.....	June 16, 24	4,400	21	21½	20	20	— 1
134⅜	108	130	111½	140	122¼	17,012,559	25	Standard Oil of Kentucky	$1Q	June 30, 28	1,900	134⅛	135⅛	130½	131½	— 3½
51⅛	42	49½	40	45⅞	39⅞	4,559,850	25	Standard Oil of Nebraska	63cQ	Sept. 20, 28	400	44	44⅝	44	44¼	— ¼
372	288	87½	72	89¾	71	14,000,000	25	Standard Oil of Ohio	62½cQ	July 2, 28	2,400	87½	95	89¾	92	+ 3½
21	15	21	14½	26	16	30,734,000	25	Swan Finch Co.	.....	Nov. 1, 19	No sales—18¾@20					
109⅜	90¼	....	....	87⅛	72¼	124,941,600	25	Vacuum Oil	75cQ	Sept. 20, 28	7,600	80¾	82⅝	79⅜	80¼	— 2

Louisiana Oil Refining

Louisiana Oil Refining Co. declared regular quarterly dividend of $1.62½ on preferred, payable November 15 to stock of record November 1.

Venezuelan Oil Concessions

Lord Bearsted at the annual meeting of Venezuelan Oil Concessions, Ltd., stated production for the current year to September 22 exceeded by 50,000 tons the 1927 production of 2,978,219 tons. Meeting was adjourned until settlement of arbitration between the company and Asiatic Petroleum Co., when accounts for 1927 will be submitted.

New Pantepec Directors

James A. Richardson, Arthur J. Morris and William M. Bertles have been elected directors of Pantepec Oil Co. of Venezuela.

North American Car Corp.

North American Car Corp. is operating 5,268 tank, refrigerator and poultry cars, all actively engaged, according to H. H. Brigham, president. As of April 27, last, company reported operation of 4,368 cars. "Crop prospects throughout the country, activity in oil refining industry and general movement of all kinds of perishable and liquid products encourage belief on part of management that we may expect continued satisfactory business," Mr. Brigham stated.

TWENTY REPRESENTATIVE STOCKS

The Oil and Gas Journal weekly average price of 20 representative petroleum stocks listed on the New York Stock Exchange and New York Curb was as follows:

Oct. 6	67.55	Aug. 20	65.42	July 2	64.17
Sept. 29	67.93	Aug. 13	65.16	June 25	62.88
Sept. 22	67.12	Aug. 6	66.16	June 18	62.95
Sept. 15	67.06	July 30	64.68	June 11	61.88
Sept. 8	66.76	July 23	64.13	June 4	66.74
Sept. 1	65.96	July 16	64.51	May 28	66.09
Aug. 27	65.79	July 9	65.38	May 21	66.85

NEW TECHNICAL SERVICE FOR EASTERN REFINERS

(Continued from Page 154)

plants producing naphtha, gas-oil, and dewaxed stock.

5. Steam-atmospheric topping and lub plants producing gasoline, naphtha, kerosene, gas-oil, wax distillate, and any grade of steam refined stock including the high test flash stocks.

6. Plants for the low temperature rerunning of treated pressure distillate from cracking plants for the production of gasoline and bottoms.

7. Vapor-phase cracking plants for making gasoline of excellent antiknock value.

8. Natural gasoline absorption and stabilization plants as well as refinery tail-gas plants.

9. Treating plants for all products.

Officers of Company

Officers of the company are A. J. Smith, president; Dr. E. H. Leslie, vice-president; S. Messer, treasurer, and C. W. Lovelace, treasurer. Mr. Smith is graduate in chemical and electrical engineering of the University of Kansas. Since his graduation he has been connected with several of the major refining organizations, including the Standard Oil Co. of Indiana and Sinclair Refining Co. His last refinery connection was with the Paragon Refining Co., where he had charge of a large construction program. During the past two years he has been engaged as a petroleum engineer and technician.

Dr. Leslie is well known in refining and marketing circles of the oil industry as a writer on petroleum subjects and as a designer of equipment now widely used by refiners. Until the past year he has been connected with the University of Michigan as a professor in chemical engineering. Previously he was engaged in research and engineering work for oil companies and closely allied industries. He is the author of "Motor Fuels," a publication dealing with the general subject of gasoline and refining methods.

Mr. Lovelace is a graduate engineer and has been connected with refinery construction and operation for several years. S. Messer, as an executive has been active in Pennsylvania refining and marketing circles for several years.

The directorate of the company includes several well known refiners of the eastern fields. The directors are: S. Y. Ramage of Oil City; H. J. Crawford, president of the Oil City National bank; S. Messer of the Emlenton Refinery and Quaker State Oil Co.; W. K. Borland, of Oil City; John Beck, of the Pennsylvania Refining Co., of Butler; D. J. Cavanaugh, of the Pennzoil Co.; C. L. Suhr, of the Pennzoil Co.; A. J. Smith of Kansas City, Mo., and Dr. E. H. Leslie, formerly of Ann Arbor, Mich., now of Oil City.

BOARD OF APPEALS DECIDES PATENT ISSUES

(Continued from Page 154)

not be definitely determined from applicant's file what they meant by 'untreated clay'."

It was found that a process described by Prutzman provides the oil and filter clay be agitated by steam at 350 degrees Fahrenheit, and it was assumed the steam may be considered superheated at that temperature since the pressures described were considered about atmospheric. It was also pointed out in the statement of the board that it would be difficult to determine if the steam was superheated at the point of application and it was also indefinite whether it was essential to the process in obtaining better results than those obtained without the use of superheated steam.

Steam in Pipe Still

The second decision was a reversal of the opinion of the examiner and involves the use of steam to hasten the oil flow in the latter portion of a pipe still. The reversal allowed the claim of I. C. Huff in which he showed the benefits derived from injecting superheated steam into the pipe still during the latter part of the oils course through the tubes. Many processes include the use of steam in the still but the board contended Huff's use was new and accomplished a different purpose.

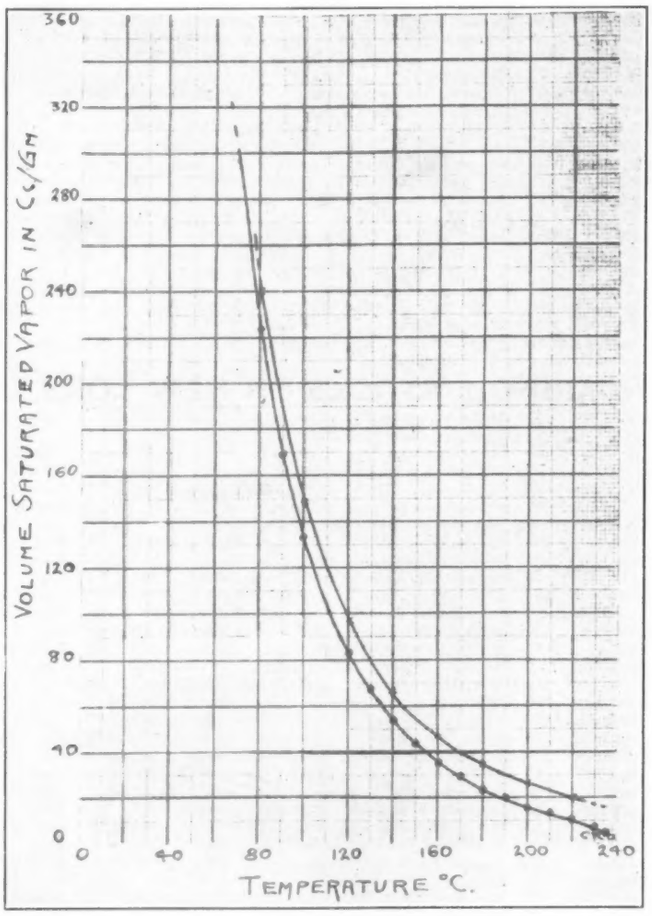
Coast, Greenstreet and Wellman hold patents involving the injection of steam into a pressure still at various points, but in the case of these the function of the steam was other than to hasten the flow of oil. The Cosden process also calls for the use of steam and the injection of water in the upper or last series of heating coils in a cracking still, but the use of the steam in this case was to wash out any residue which might deposit in the tubes. It is the contention of Huff that the steam hastens the flow of oil through the latter part of the still and decreases the amount of carbon formed, and on this basis has been successful in getting a favorable opinion from the board on patent appeals.

EFFECT OF VARYING TEMPERATURE OF OIL

(Continued from Page 155)

sorption is a vapor pressure phenomena and depends on the lowering of the vapor pressure due to solution, the higher vapor pressure of the constituents in the lean oil at higher temperatures will retard absorption. This then is another important reason for cooling the oil to as low a temperature as possible.

In practically all plants, an increase in oil circulation will raise the lean oil temperature to the absorbers. An increase in oil rate will usually lower the temperature rise through the absorber. Whether an actual gain in absorption efficiency for the useful constituents has been realized will depend entirely on the ratio of temperature increase to oil rate increase.



Graph showing the amount of hexane vapor absorbed at various temperatures.

ARUBA PLANT HAS BIG CRACKING CAPACITY

(Continued from Page 154)

has large quantities of crude in storage in the fields and in steel tanks at its ocean loading terminal at Aruba, from where the oil is moved in shallow draft tankers from Venezuela.

Gasoline Output

Pan American's new Aruba refinery, it is estimated, will be able to produce over 600,000,000 gallons of gasoline annually, which will necessitate an expansion of the company's gasoline marketing operations. During the past few years, the company has been marketing about 200,000,000 gallons of gasoline and 20,000,000 bbls. of fuel oil annually. Thus, the new refinery will be able to produce more than three times the quantity of gasoline which the company has been selling.

The Pan American Petroleum & Transport Co. is also building a 5,000-bbl. refinery on a 60-acre tract on the South Elbe River, near Hamburg, Germany. The new German refinery will operate on heavy Mexican crude from the company's Ebano Field, and will produce benzine, gas oil, fuel oil, asphalt, road oil, and roofing flux.

The refinery, which is costing $2,000,000, is expected to be ready for operation in April, 1929.

PANHANDLE FIELDS

(Continued from Page 47)

at 498-510 feet. Magnolia Petroleum Corp.'s No. 2 Johnson made 20 bbls. at 592-600 feet. Reed & Wooten and others' No. 1 Drum was dry and abandoned at 710 feet. Riggs and others' No. 17 McKinley was junked at 596 feet. Stafford and others' No. 1 Leberman was dry and abandoned at 692 feet. Stivers & Streeter's No. 1 Dent was dry and abandoned at 1,378 feet. Underwood Drilling Co.'s No. 1 Campbell was dry and abandoned at 945 feet. Walton and others' No. 1 Weems was dry and abandoned at 625 feet. Wolfe's No. 4 Lowe was dry and abandoned at 896 feet. Shermerhorn Oil & Gas Co.'s No. 3 Thompson made 100 bbls. after having been shot with 80 quarts at 2,060-98 feet.

Wichita County

R. R. Clark's No. 3 Langford made 115 bbls. at 1,734-45 feet. Coleman & Coppock's No. 6 K. & K., Lot 4, was dry and abandoned at 863 feet. C. A. Everts' No. 1 Burnett was dry and abandoned at 750 feet. H. Hines and others' No. 7 Waggoner Brothers was dry and abandoned at 1,416 feet. Magnolia Petroleum Co.'s No. 1 Allen & Kemp made 17 bbls. at 1,047-49 feet. Its No. 3 Pace made 55 bbls. at 1,227-31 feet. O'Donohue & Gales' No. 2 M. P. Bishop was dry and abandoned at 1,920 feet. Panhandle & Hines made 20 bbls. at 1,373-92 feet; Pois & Kruger's No. 12 W. T. Waggoner made 22 bbls. at 1,807-25 feet. United Producers' No. 1 Waggoner Brothers was dry and abandoned at 1,827 feet.

Wilbarger County

Barkley & Meadows' No. 6 Waggoner-C swabbed 190 bbls. at 1,867-90 feet. Consolidated Oil Co.'s No. 13 Waggoner-A made 220 bbls. at 1,835-75 feet. Its No. 3 Waggoner-C made 255 bbls. at 1,860-91 feet. Its No. 1 Waggoner-F was dry and abandoned at 2,459 feet. Cosden & Co.'s No. 26 Waggoner-B made 475 bbls. at 2,293-2,337 feet. Their No. 27 Waggoner-B made 142 bbls. at 2,286-2,307 feet. Derby Oil Co.'s No. 3 Waggoner-A made 60 bbls. at 1,892-1,909 feet. Derby Oil Co.'s No. 4 Waggoner-A was drilled to a total depth of 1,920 feet, plugged back to the sand at 1,903-12 feet and had an initial production of 75 bbls. Fain-McGaha's No. 1 Waggoner-U made 163 bbls. at 2,390-94 feet. Lewis Production Co.'s No. 1 Waggoner made 60 bbls. at 2,452-54 feet and was drilled to a total depth of 2,468 feet. John O'Neil's No. 1 Waggoner-C was dry and abandoned at 2,500 feet. Phillip Petroleum Corp.'s No. 4 Waggoner-OO made 50 bbls. at 1,875-97 feet. Simms Oil Co.'s No. 6 Waggoner made 135 bbls. at 1,860-75 feet. The Texas Company's No. 12 Waggoner-E made 280 bbls. at 2,412-27 feet. The Texas Company's No. 14 Waggoner-E made 360 bbls. at 2,358-85 feet.

RANGER DISTRICT
Week Ended October 6

Cranfill & Reynolds' No. 13 Eubanks was shot with 3 and 5 quarts at 1,217-40 feet and made 75 bbls. Curry and others' No. 1 Kilgore was dry and abandoned at 1,345 feet (corrected). DeLang and others' No. 1 DeBusk was dry and abandoned at 1,342 feet. Gilman & McMurray's No. 19 Teston made 15 bbls. at 1,177-1,204 feet. Kone Production Co.'s No. 17 Hickman was shot with 20 quarts at 1,235-55 feet and made 175 bbls. Rowan & Tong's No. 1 Jones was dry and abandoned at 1,300 feet. Woodley Petroleum Co.'s No. 4 Armstrong made 35 bbls. after having been shot with 20 quarts at 1,172-95 feet. Its No. 11 Hickman was shot with 15 quarts at 1,252-68 feet and made 53 bbls. Its No. 12 Hickman made 100 bbls. at 1,239-54 feet. Crown Petroleum Co.'s No. 1 Johnson was dry and abandoned at 303 feet.

Eastland County

Panhandle Oil & Refining Co.'s No. 29 Hightower was shot with 15 quarts at 1,203-10 feet and made 5 bbls. oil and 10 bbls. water. T.P.C.&O. Co.'s No. 1 Stewart was dry and abandoned at 3,473 feet. Murray and others' No. 1 Castleberry was dry and abandoned at 3,825 feet.

Coleman County

Isling Production Co.'s No. 1 Eddington made 1,400,000 feet of gas at 1,119-27 feet. Magnolia Petroleum Co.'s No. 21 Morris was dry and abandoned at 887 feet. Charter Oil Co.'s No. 4 Crump was shot with 20 quarts twice at 1,850-62 feet and made 60 bbls. Continental and others' No. 4 Overall made 2,250,000 feet of gas at 758-65 feet. Cunningham and others' No. 7-C Jenning made 25 bbls. after having been shot with 30 quarts at 1,165-84 feet. Sterling Oil & Gas Co.'s

No. 1 Haygood made 3,000,000 feet of gas at 2,080-87 feet. Whitesides' No. 2 Stafford was dry and abandoned at 1,480 feet.

Stephens County

Mid-Tex Oil Co.'s No. 5 Cunningham made 30 bbls. at 4,073-77 feet and was drilled to a total depth of 4,400 feet. Brown's No. 5 Riddle made 60 bbls. after having been shot with 30 quarts at 1,837-71 feet.

Shackelford County

Cranfill & Reynolds' No. 1 Davis was dry and abandoned at 1,820 feet. Roeser & Pendleton's No. 35-C-60 Cook made 50 bbls. at 1,163-81 feet. Their No. 36-C-60 Cook made 50 bbls. at 1,170-84 feet. Tannehill Oil Co.'s No. 9 Matthews was dry and abandoned at 1,192 feet. The Texas Company's No. 3 Sedwick made 800,000 feet of gas at 534-52 feet.

KEEN DEMAND FOR HIGH-GRADE CRUDE

(Continued from Page 37)

last-named company is more active as a crude buyer than it has been in years. The eagerness of the large companies to buy good crude cannot help but give the impression that they "want to get it while the getting is good," as the fields of the Mid-Continent point only to an almost complete downward trend in production in the near future.

The accompanying table presents a picture of the crude situation as compared with a year ago. It will be found interesting to any student of the geographical and qualitative changes in oil production:

OKLAHOMA GASOLINE MARKET IS STEADY

(Continued from Page 36)

betterment in the fuel market for several months to come even though a greater demand is expected to develop as the winter season is approached.

Gasoline and Naphthas

U. S. Motor gasoline was being quoted in the Group 3 territory at prices ranging from 9 cents to 9¾ cents Group 3 over the past week with almost equally wide ranges being shown on the other grades. Practically all of the very low priced material came from plants outside of Oklahoma, much of it coming from West Texas. When the low price on this material was discussed by Oklahoma refiners, they gave as the reason for the wide difference in the price as due to a difference in quality. While some difference in quality may be apparent, the low priced West Texas and North Texas gasoline is being used as a means of bringing pressure on the entire Mid-Continent by jobbers and brokers and all Oklahoma refiners have had to answer this question from their regular customers. Over the last week, there was some export 390 endpoint gasoline sold out of North Texas at 9¼ cents which is considerably below the general market. The weighted average prices on sales reported by Oklahoma refiners on sales made on the spot market on Monday of this week and last week appear below.

Grade—	Price Oct. 8	Price Oct. 1
58-60 437 endpoint	.09740	.09725
60-62 437 endpoint	.09750	.09900
60-62 400 endpoint	.10250	.10125
64-66 375 endpoint	.11000	*

*No sales reported.

Naphtha sales fell off and prices were lower in some instances as the general naphtha market reflected the gradual weakening gasoline market.

Natural Gasolines

All grades of natural gasoline strengthened in price at the close of the week and manufacturers anticipated holding prices near their present level for the first half of the month at least. At the beginning of the week, there was only a normal amount of trading and manufacturers were just a little disappointed as they expected a decided increase in the business after October 1. The activity started when the Humble Oil & Refining Co. took a small amount of material to move to the Gulf at 9¾ cents which was considered to be a good price at the time of the sale. Other inquiries and orders immediately followed. Jobbers and refiners increased their previous inquiries and called for more prompt shipment and the market was advanced from a quarter to a half cent overnight. Some manufacturers were not enthusiastic about the advance and say it is temporary and that the price will be back to last week's level by the close of another week.

Kerosene and Distillates

Cheap North Texas kerosene again appeared in competition with Oklahoma kerosene and the latter weakened as a result. Jobbers say they are buying a good grade of 41 gravity kerosene in North Texas on the basis of 5¾ cents Oklahoma. That the Oklahoma market has weakened is evidenced by the fact all quotations were made with 6¼ cents as the top and last week there were a few holding out for 6½ cents. Distillate sales now represent a large portion of the total volume of refined oils moved and more attention is being paid this product.

The volume of sales is increasing each week but there has been no corresponding strengthening in the price. The high gravity, low flash furnace oil is still available in great quantities at 3¼ cents.

Gas Oil and Fuel Oil

Since the beginning of July, neither the gas oil nor the fuel oil market has shown a change and it is the belief on the part of most Oklahoma refiners the present price level of these products will extend throughout the balance of the year. A curtailment of crude runs in the Mid-Continent may serve as a factor in strengthening the fuel market. Stocks are admittedly very high and there is little relief expected in the competition offered by West Texas fuels. This material is being purchased at prices from 5 to 7½ cents below the Group 3 price after the freight difference has been equalized. One marketer says he has closed his October requirements on the basis of 47½ cents Group 3, the fuel to be 18 gravity and to meet Bunker C specifications.

Lubricants and Wax

All grades of lubricants were freely offered, including the bright stocks, which have been showing a marked improvement in both the demand and in price. Refiners do not expect a general reduction in prices, however, for the reason that prices were not advanced during the summer as in the case of the other refinery products. Because of the large investment needed in the manufacture of lubricants and the high processing costs, there never is the wide fluctuation in lubricating oil prices that characterize the balance of refinery prices. As the demand varies, refiners generally store their excess production during the winter and then take from storage during the summer. At this time material is going into storage and rather than to expect a break in the market now, it seems more likely that prices will be maintained near their present level and no material change made until a revision of Mid-Continent crude prices is made.

Wax is being shipped from the Mid-Continent almost as fast as it is manufactured and there is no apparent factor that will alter its present strong position over the balance of the month at least.

OVER 5,000 GAS MEN ATTEND BIG CONVENTION AT ATLANTIC CITY

ATLANTIC CITY, N. J., Oct. 8.—The tenth annual convention of the American Gas Association opened on Million Dollar Pier here today with more than 5,000 gas men present from all sections and more than 280 exhibitors showing latest equipment and appliances. Oscar H. Fogg, Bernard J. Mullaney and Clifford E. Paige were re-elected president, vice president and treasurer, respectively.

At a special meeting of the Natural Gas Department tomorrow afternoon, Chairman Samuel W. Meals of Pittsburgh will preside and outline the future policies of the department. This will be followed by an important address by Christy Payne of the Standard Oil Co. of New Jersey and president of the Hope Natural Gas Co., who will touch on the problems of special interest and significance to the natural gas industry. An open forum will follow at which leaders in the natural gas industry will take part. This meeting follows important meetings of the managing and advisory committees. The exhibits have much of interest to natural gas men, including pipe line material and other equipment and models of 1929 appliances, including combination gas range and incinerator and many new industrial gas appliances.

In his address, Alexander Forward, managing director of the American Gas Association, said the steady growth of the natural gas business is reflected in the 10 per cent increase in sales in 1927, the largest increase being in sales for domestic and industrial purposes. Total revenue from domestic sales amounted to $180,000,000, as compared to $138,000,000 from industrial and other uses. Ohio leads the states with largest number of domestic customers, followed by California and Pennsylvania.

Miss Mary Spear of the Natural Gas Department is at the registration desk, and her cheery "Hello" is as welcome to natural gas men as fresh breezes from the Atlantic Ocean.

Among the more prominent representatives of the natural gas industry are Colonel Walsh, J. G. Pew, W. H. Thomson, T. R. Weymouth, H. A. Wallace, W. W. Freeman, Frank L. Chase, Samuel W. Meals, J. D. Creveling, Elmer F. Schmidt, James H. Dye, R. W. Gallagher, T. B. Gregory, J. B. Tonkin, Raymond Cross, F. L. Stone, L. L. Tonkin, George B. Webber, W. G. Hagan, George W. Horsley, T. H. Kerr and many others. There are at least 300 natural gas men here for the meeting.

The Manufacturers Section of the American Gas Association met today and elected H. Leigh Whitelaw, of New York, chairman and F. G. Curfman, of New York, vice chairman.

Charles H. Dickey, president Pacific Coast Gas Association, has extended an invitation to the advisory council and executive board of the American Gas Association to hold its next annual spring conference on the Pacific Coast. President Fogg has appointed a committee consisting of Harry C. Abell, chairman, Dana D. Barnum, Alexander B. Macbeth, J. G. Klumpp and Bernard J. Mullaney to report at the November meeting of the executive board.

Late Fields

(Continued from Page 46)

ing that has gone to the Edwards and a good showing of oil seems to indicate that the work of the geologists in that area has not been in vain, though the well will not be an oil well till it has got through the cap rock.

Late Sunday arrangements were being made to get a different make of core barrel to make another effort to core through the rock which was so hard that ordinary bits were worn off.

GULF COAST

HOUSTON, Tex., Oct. 9.—Watts Oil Co.'s No. 8 Blakely on the northwest edge of production of Blue Ridge was completed Monday flowing an estimated 400 bbls. of pipe line oil from sand at a total depth of 2,088 feet. Yount Lee Oil Co. completed a 400-bbl. well in its No. 25 McFaddin at Spindletop. The well, originally brought in last January, flowing 2,480 bbls. from sand at 3,726 feet, during August was deepened into heaving shale at 4,414 feet and since has sidetracked and drilled to a sandy shale at 3,290 feet.

Flowing an estimated 4,000 bbls. daily of pipe line oil through a three-quarter inch choke Bennett Petroleum Co.'s No. 1 Smith at Barbers Hill, northern Chambers County, 30 miles east of Houston, was brought in Tuesday morning. Production is from a deep flank sand at a total depth of 5,272 feet. The oil tested 24 gravity with temperature of the well 72 degrees.

The well is on the south side of the dome 250 feet west of the nearest well, Bennett Petroleum Co.'s No. 1 Kirby, and is by far the best well which has been completed at Barber's Hill in more than 25 years of drilling. Although only 250 feet west of No. 1 Kirby, the No. 1 Smith is 196 feet higher, production in the former being at 5,468 feet. Sinclair Oil and Gas Co., Humphreys Corp., and other companies hold acreage in the vicinity of the new well, Some of which will have to offset.

OKLAHOMA

The St. Louis Pool of Pottawatomie County, Oklahoma, showed an increase on Tuesday morning of this week when operating water, obtained through the rainfall, permitted the air lift plants to run continuously. The St. Louis Pool made 125,860 bbls. for the Tuesday morning gauge.

The Greater Seminole area also showed an increase in output and the production by pools for that region follows:

Little River	137,318
Maud	94
Mission	155
Bowlegs	51,851
Earlsboro	81,242
Seminole	43,800
Searight	11,431
Total barrels from 1,245 wells	325,891

The Sinclair Oil & Gas Co. extended the Little River Pool three-eighths of a mile southeast in its No. 1 Pompey, NW cor. SW SW Section 24-7-6. This well found the Wilcox sand 4,466-72 feet, with 2,500 feet of oil and will make an air lift well.

In the south end of Little River, T. B. Slick's No. 1 Wood, NE cor. NW Section 26-7-6, which was a failure in the Wilcox at a total depth of 4,470 feet, will be plugged back to 3,300 feet, where a show of oil was found.

WEST TEXAS

FORT WORTH, Tex., Oct. 9.—Winkler, Richardson and others' No. 1 Stockton, Section 50, Block 7, drilled plug and deepened 2 feet to 2,956 feet, is flowing 10 bbls. hourly and 5,000,000 feet of gas. Barnsdall Oil Co. is building rig for diagonal northeast offset to Richardson well. Crockett, Callahan and others' No. 1 Todd, Section 13, Block YZ, R.L.R.R. Survey, had 1,000,000 feet of gas in sand at 1,205-10 feet, total depth 1,250 feet, brown shale. Haskell, Moody's No. 1 Reynolds swabbed 146 bbls. of oil and 3 bbls. water with 1,500,000 feet of gas at 1,730-34 feet.

EAST TEXAS

HOUSTON, Tex., Oct. 9.—Humble Oil & Refining Co.'s No. 1 Roberts, on the Boggy Creek Dome, Anderson County, a wildcat completed the past week as a dry gasser making 2,000,000 feet daily, started showing high gravity oil late Monday and Tuesday was flowing at the rate of 103 bbls. daily. The oil, a distillate, tests 50 gravity. The well is 1,600 feet southwest of production on the southeast side of the dome. The production is from sand at 3,634 feet. The gravity of other wells at Boggy Creek ranges from 37 to 39 degrees.

ANTHONY, KANS., SUPPLY

The Western Ice & Utilities Co., which holds the natural gas franchise at Anthony, Kans., has completed a main 6-inch line to the Cities Service Gas Co.'s 20-inch line and will start taking gas within the next few days.

Gulf Loading and Unloading Stations

Description of Plants Along 450-Mile Coast Line. Lay-out of Tanks and Suction Lines and Equipment Used

By Neil Williams

The discovery and development of oil fields in the Gulf Coast and Mid-Continent areas created the necessity for cheap transportation, and, as water is the cheapest of all forms of transportation, it was obvious that the eyes of the large oil companies operating in these areas turned to the Gulf Coast as the nearest and most direct outlet to eastern and foreign markets for both crude oil and petroleum products. Deep water being available, or obtainable at a minimum expenditure of money, refineries and terminals were located conveniently to the natural waterways of the Gulf of Mexico, which plants were, and are, being fed by the increasing pipe line arteries that net both the Gulf Coast and Mid-Continent oil fields.

In the early part of this century wooden barges and whalebacks holding but 5,000 to 6,000 bbls. of cargo were the only water craft used for transportation of crude oil and petroleum products, which required six or seven hours to load and frequently as many days to discharge, in as much as a single cargo would be unloaded at different points. But today, in less than three decades, it is not uncommon to see, in a score or more of the Gulf Coast ports, the modern tankship berthed alongside an oil terminal. Some of these tankships are among the largest vessels afloat and have a maximum cargo capacity of 140,000 bbls., with a loading or unloading rate of from 5,000 to 20,000 bbls. per hour.

Bulk Cargoes

At first the principal cargoes which this small craft handled were crude oil, but, as refineries grew in capacity, together with the increasing demand for refined oils, such as gasoline, numerous lubricating stocks, fuel oil, gas oil, etc., bulk transportation by water of these by-products increased rapidly and today the greatest percentage of refined petroleum products leaving the refineries in the Gulf Coast areas for eastern and foreign markets are in bulk cargo.

As the demand for transportation of the refined oils in bulk grew, it was necessary for the terminals located at or near refineries, and at a few other points along the Gulf Coast, to be constructed in such way as to be able to handle most efficiently and safely two or more grades of petroleum products at the same time; for a dock which would be efficient and reasonably safe for the loading of crude oil would not, in a number of cases, offer the proper protection for the loading of gasoline and high volatile oils, neither would such crude oil dock be suitable for the loading of refined products, as these products must be free from contamination. Today, can be seen many modern docks along the Gulf Coast equipped with adequate facilities for fire protection and with pipe lines extending the total length of the docks which can be used in loading two or more vessels at the same time of as many different products.

It is not the aim of this article to trace the history in detail of the growth and expansion of loading and unloading terminals in the Gulf Coast area, but it is rather to give a general idea as to the present day facilities along the Gulf Coast, which area extends from New Orleans to Corpus Christi, an approximate distance along the coast of 450 miles.

The Gulf Coast area is divided into four main districts, namely:

1. Mississippi River district.
2. Sabine district.
3. Houston-Texas City-Galveston district.
4. Corpus Christi district.

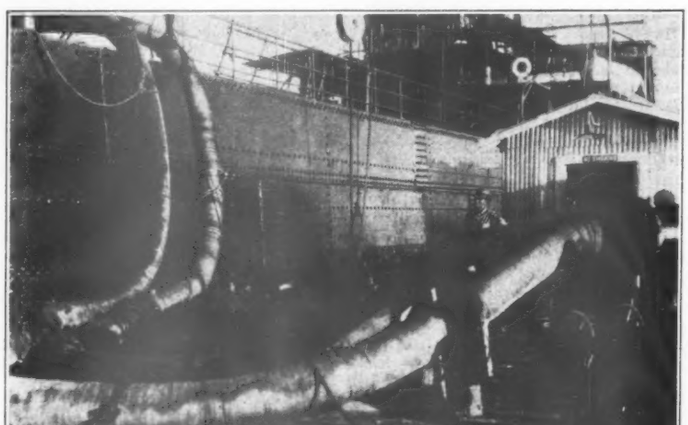
In each of these districts there are numerous oil terminals both for loading and unloading, but neither time nor space will permit mentioning in detail each and every dock. Hence the more important terminals will be treated in their respective districts.

Mississippi River District

All of the terminals in this district are located some distance from the Gulf of Mexico, but as deep water is available there are to be found some of the largest terminals as far as 250 miles from the sea with water up to 35 feet deep with river at low stage.

1. The terminal of the Standard Oil Co. of Louisiana, located on the Mississippi River at Baton Rouge, is 247 miles from the sea and has a channel depth of 35 feet at mean low stage of river.

At this point there is a massive dock 1,600 feet long and 50 feet wide, constructed of creosoted timbers and built to withstand the strong currents of the Mississippi River, with variation in water levels of 30 feet and having a berthing space for four vessels.



Loading a tanker at Ingleside.

It is obvious that a dock designed for such extreme conditions would necessitate unusual bracing, which naturally adds to the fire hazard, and there is found on this dock a most complete fire protection system composed of a water sprinkler system running underneath the dock nearly the entire length with laterals leading from high pressure water mains; also a modern foamite system with adequate hose connections and monitors every 100 feet which can be handled by one man in any direction and at any angle. In addition, there is also a steam line with 115 pounds pressure.

There are 14 main pipe lines extending from pumping plants on the shore and running on top of the dock, varying in size from 4 inches to 16 inches, depending on the product to be loaded, and with a possible loading rate per hour of 16,000 bbls. of gasoline to 28,000 bbls. for crude and fuel oil.

The pumping plants on the shore are equipped with large capacity motor driven centrifugal pumps. A complete telephone system connects docks with the main office on land and communication between dock and pump houses is handled through office switchboard, and these calls are given preference over any other calls.

In addition to the sea-going vessels that are loaded and unloaded over this dock, the Standard Oil Co. of Louisiana operates a fleet of barges between Baton Rouge and Memphis and intermediate points carrying gasoline, kerosene and light oils. Some Smackover crude is also moved by barges from a point 90 miles up the river to the Baton Rouge plant.

Good Hope Terminal

2. The terminal of the New Orleans Refining Co. is located at Good Hope, La., 138 miles from sea and has a dock 800 feet long, 22 feet wide, of creosoted timber construction, with a channel depth of 35 feet. Dock has a berthing space for two vessels. The dock is protected from fire by steam, water and portable foamite equipment.

There are four pipe lines of 8 inches to 16 inches in diameter, with pumping capacity per hour for gasoline of 2,500 bbls. and for crude depending upon the steamer requirements.

3. The plant of the Carson Petroleum Co., which is located at St. Roe, La., on 35 feet of water, is 130 miles from the Gulf and has a creosoted wooden dock 750 feet long, with a berthing capacity of two ships.

Four pipe lines connect the dock with the plant for handling crude and light oils.

4. The plant of the Mexican Petroleum Co. at Destrahan, La., is 133 miles from the Gulf, on 35 feet of water, and has a wooden creosoted dock 1,000 feet long and 30 feet wide, with berthing space for two ships. A complete foamite system furnishes adequate fire protection for the dock.

Seven pipe lines connect dock to the plant for handling crude and light oils, with a possible capacity of 3,200 bbls. per hour for gasoline, 1,000 bbls. for kerosene, 4,000 bbls. for fuel, and 8,000 bbls. for crude.

Steam pumps are used and dock men are permitted to close valves on discharge lines in cases of emergency.

5. The Standard Oil Co. of Louisiana has a small wharf located at Avondale approximately 121 miles from the Gulf, over which fuel oil and crude is handled principally by barge.

6. The Texas Company has a small floating dock located at Amesville, La., consisting of two pontoons over which gasoline, kerosene, and fuel oil is handled.

7. The Sinclair Refining Co.'s terminal at Mereau, La., is located on the Mississippi River, approximately 8 miles below New Orleans and 102 miles from the Gulf. At this point there is a creosoted timber dock 500 feet long and 18 feet wide, with a capacity of one ship; water of 35-foot depth.

The dock is protected from fire by both steam and water lines. There are three main loading lines 6 inches to 12 inches in diameter, which have a possible loading capacity of 2,800 bbls. per hour of crude, 4,000 bbls. of fuel and 1,500 bbls. of gasoline.

Sabine District

In this district, which takes in the ports around Port Arthur, Beaumont, Orange, etc., are located some of the largest loading terminals along the Gulf Coast.

1. The first to be considered is that of the Magnolia Petroleum Co. located at Beaumont, Tex., approximately 49 miles from the sea on the upper Neches River. They have one 1,650-foot concrete dock with 1,250 feet of 30-foot water and 400 feet of 24-foot water, with a berthing space for four ships.

The dock being of concrete construction, fire hazard is reduced to a minimum. However, there is a steam line with 70 pounds pressure available, together with adequate water connections.

There are eight loading lines of different diameters and having capacity, depending upon conditions, of 6,500 bbls. of gasoline per hour, and 8,600 bbls. of crude per hour. Vessels are loaded to about 29-foot 6-inch draft and require the use of a tug to accompany ships to sea. The pumping equipment is electrically driven centrifugal pumps.

Like practically all of the larger terminals located at or near refineries, package goods are loaded, as well as bulk, but at this plant there is a coke-loading arrangement which is unique in its operation, consisting of a belt conveyor which handles coke from the storage bins to the hold of the ship and which automatically weighs and registers the amount being loaded on the ship.

2. The terminal belonging to the Pure Oil Co. located at Smith's Bluff, Tex., on the Neches River, is 37 miles from Sabine sea buoy, and has a water depth of 30 feet, and vessels can load to a 29-foot draft but require the assistance of a tug to the sea.

The dock is of creosoted timber construction, 300 feet long, having berthing space for one ship. Steam and water being available on dock with adequate connections furnish fire protection.

The pipe lines connecting plant and dock are of 10-inch and 12-inch diameter and three in number, with an approximate capacity per hour of 5,000 bbls. gasoline and 6,000 bbls. of fuel oil. Pumping equipment at this plant is electrically driven centrifugal, and valves on the discharge lines can be closed against pumps in times of emergency.

Magnolia Terminal

3. The Magnolia Petroleum Co. has another terminal at which they load crude and gas oil, which is located 35 miles from sea on the upper Neches River and known as Magpetco, Tex.

The dock is 250 feet long, having a berthing capacity of one ship, and with 30 feet of water alongside.

There are three loading lines of 8-inch and 12-inch size, and loading capacity is 3,300 bbls. of gas oil and 2,700 bbls. of crude oil per hour. The pumping plant has both steam and centrifugal pumps.

4. The terminal belonging to the Atlantic Refining Co., located at Atreco, Tex., is 31 miles from the Sabine sea buoy on the Neches River, and has 30 feet of water alongside. Vessels are allowed to load to a draft of 29 feet, and require tug assistance to sea.

There are two docks of one berth each constructed of creosoted timber, and there are four loading lines of 4, 8 and 12-inch diameters, with approximate

loading capacity for gasoline of 2,500 bbls. per hour and for crude of 5,000 bbls. per hour. Electrically driven centrifugal pumps are used in loading cargo.

5. The Texas Company at Port Neches has a small plant over which bulk shipments have been practically discontinued; however, fuel oil is still moved from this plant to the main terminal of that company at Port Arthur by barge.

6. There is a small wharf located on the Neches River at the intersection of the Sabine-Neches Canal, owned by the Humble Oil & Refining Co., located in Orange County, which was built primarily to take care of the crude oil produced in the Orange Field. This plant has a loading capacity of 5,000 bbls. per hour. Motor driven centrifugal pumps are used in loading.

7. At Port Arthur we find the main terminals of The Texas Company, which are located approximately 14 miles from the Sabine sea buoy with 30 feet of water. They have three docks, one for refined oils, 1,116 feet long and 48 feet wide; one for package goods, 652 feet long by 60 feet wide, and one for crude and fuel oil, 1,113 feet long by 18 feet wide. All are of creosoted timber construction.

Portable foamite carts are located at convenient places on the docks and adequate water fire lines with hose connections. The water lines extending along the docks are provided with connections to connect with fire boats for higher pressure.

The loading lines connecting pumping plants on shore with docks are upwards of 20 in number, ranging from 4 to 10 inches, with loading capacities for kerosene of approximately 2,000 bbls. per hour; for gasoline, 6,000 bbls., and for fuel and crude oil, 5,000 bbls. per hour. The capacity of the lubricating oil lines of different grades depends upon conditions.

The docks are connected by separate telephone system to respective pump houses to insure greater safety in operation, in as much as loading pumps are all of the Duplex steam type.

Gulf Company's Terminal

8. At Port Arthur there is to be found another large loading terminal belonging to the Gulf Refining Co., which is located at the mouth of Taylor's Bayou 18 miles from sea and on the Sabine-Port Arthur Canal. This dock is of most modern type reinforced concrete construction, 3,000 feet long and having a berthing capacity of nine ships. The depth of water alongside dock is 31 feet.

The dock is protected, although of concrete construction, by Foamite system, steam and water.

There are 15 main loading lines ranging in size from 6 to 10 inches, and having a possible capacity of gasoline approximately 6,000 bbls. per hour; kerosene, 2,500 bbls. per hour; fuel oil, 6,000 bbls. per hour. Capacities, of course, depend upon conditions. Electrically driven centrifugal pumps are used in loading vessels, and dock men can shut valves against pumps without endangering equipment.

9. The crude oil loading terminal of the Yount Lee Oil Co. is located on the Neches River, 42 miles from Sabine sea buoy, on 30 feet of water, and all vessels require tug assistance to the sea.

The dock is of the skeleton type, constructed of creosoted timber, 270 feet long, with a berthing space of one vessel, which dock is being extended at the present time to have an ultimate length of 730 feet with a berthing space of two ships. This dock is well protected with fender clusters on the face of the main structure, which gives greater protection against ramming by vessels.

Dock is protected by high-pressure water line with adequate connections, and, in addition, portable foamite apparatus conveniently located.

There are three loading lines, 8 and 10 inches in size, with a loading rate of 9,500 bbls. per hour. The pumping equipment consists of electrically driven centrifugal pumps; and like many other terminals, dock crews are allowed to close gates against pump in cases of emergency. Telephone communication between docks and pump houses independent.

10. The crude oil terminal belonging to the Vacuum Oil Co., located at Lockport, La., on the Calcasieu River, is 72 miles from Sabine sea buoy on 30 feet of water, ships requiring tug assistance to and from the sea. The dock is also of the skeleton type, constructed of creosoted timber, with 250 feet of decking, and provides berthing space for one vessel. The loading lines connecting plant with docks are two in number and have a capacity per hour of 6,000 bbls. Loading pumps are motor driven centrifugal, with telephone service between station and dock.

Houston-Texas City-Galveston District

The Houston-Texas City-Galveston district takes in the area from Bolivar Roads, Galveston and Texas City terminals and up the Houston Ship Channel to Houston, covering a distance of approximately 50 miles, which area has a number of loading and unloading terminals.

1. The Deep Water refinery is a small manufacturing plant of lubricating oils, and is located on Brays Bayou only 500 feet from 30-foot water in Houston Ship Channel.

2. The Sinclair Oil & Refining Co. plant is located on the Houston Ship Channel with 30 feet water, and is 49 miles from Bolivar Roads.

There is one concrete dock and two creosoted timber docks, with berthing space for three vessels. Docks are protected against fire by steam and water lines with adequate hose connections entire length of each dock.

There are three 12-inch loading lines with loading rates for gasoline of around 6,000 bbls. per hour, and for crude and fuel oil of around 10,000 bbls. per hour. Loading pumps are of the electrically driven centrifugal type and dock men are allowed to close valves against pumps while loading in case of an emergency.

3. The plant of the Crown Central Petroleum Co. is located on the Houston Ship Channel, 48 miles from Bolivar Roads, with 30 feet of water, and has one creosoted timber dock with a berthing space for only one ship.

The lines running from plant to dock are 10 and 12-inch, with a loading capacity for crude oil of 8,500 bbls. per hour, and for gasoline of 8,000 bbls. per hour.

4. The Galena Signal Oil Co. has two docks, one located at its refinery on the ship channel, with 30 feet of water, and 46 miles from Bolivar Roads, while the other dock is at Norsworthy on the Houston Ship Channel, with the same depth of water, but 44 miles from Bolivar Roads. Both docks are of creosoted timber construction, and have a berthing space for only one ship each.

There are three lines, consisting of 4 and 6-inch, running from plant to dock and having a loading capacity of 3,000 bbls. per hour for gasoline and approximately 2,000 bbls. per hour for crude. Both docks are equipped with water line for fire protection, with hose connections at convenient points along the dock.

Humble Terminals

5. The loading terminal of the Humble Oil &Refining Co., which is located at Baytown, Tex., on the Houston Ship Channel, and which is 22 miles from Houston and 28 miles from Bolivar Roads, has a water depth of 30 feet in the channel, with 35 feet alongside dock. There are two docks, both of concrete, one 650 feet long by 30 feet wide, and one 450 feet long by 46 feet wide, with a total berthing space of four vessels, the shorter dock accommodating a vessel on either side.

The 450-foot dock is one of the most modern and best equipped docks in the Gulf Coast area. The floor of the dock is of vitrified brick laid up in a strong mixture of cement and slopes from each side to the center, where drip pans are located to catch any refuse oil. These pans are connected with pumps and to the separator ashore.

Docks are protected against fire by complete foamite system with connections at convenient points, as well as high pressure water line to both docks and to all loading berths, also steam lines.

There are six main loading lines connecting plant with docks, varying in size from 8 to 15 inches, with a loading capacity per hour of 11,000 bbls. for gasoline and 18,000 bbls. for crude and fuel. The loading of lubricating oils of different grades is at rates depending upon conditions, and through smaller size lines than those above noted.

Telephone and separate electric push button systems connect both docks and pump houses independently. The main pumping plants are equipped with electrically driven centrifugal pumps, and dock men are allowed to close valves on docks against pumps in cases of emergency.

6. The Humble Oil & Refining Co. also have another terminal used for crude oil service only, located on the Galveston Bay at Texas City, 6 miles from Bolivar Road, on 30 feet of water. The dock, which is of creosoted timber construction, is 650 feet long, with a berthing space of one vessel. The dock is protected with foamite and water.

There are three lines, 10 and 12 inches in diameter, which have a maximum loading capacity of 18,000 bbls. per hour. Pumps are motor driven centrifugal, and dock crews are allowed to close gates against pumps in cases of emergency.

7. At Texas City there are also located loading terminals of the Pierce Oil Corp., Marland Refining Co., Vacuum Oil Co. and Swiftsure Petroleum Co. All of these companies' terminals are located on property leased from the Texas City Terminal Railway Co., and the docks used for loading are owned by the Texas City Terminal Co., including the dock used by the Humble Oil & Refining Co.

Pumping Equipment

The pumping equipment used by the oil companies operating at Texas City for loading are electrically driven centrifugal installations, with the exception of the Vacuum Oil Co., which uses steam pumps for loading, and the Marland Refining Co., who use both centrifugal and rotary.

The possible hourly loading rates of above companies are as follows:

Pierce Oil Corp., about 3,000 bbls. per hour.

Marland Refining Co., about 12,000 bbls. crude and 6,000 bbls. gasoline; light oils depending on conditions.

Vacuum Oil Co., approximately 6,000 bbls. for crude oil.

Swiftsure Petroleum Co., approximately 4,500 bbls. per hour for fuel and crude.

8. There are four small loading terminals located at the port of Galveston belonging to the Southern Pacific Railway Co., the Missouri-Kansas-Texas Railway Co., the Mexican Petroleum Corp. and the Gulf Refining Co., all of which are used principally for bunkering ships, together with a certain amount of cargo loading and discharging. Considerable crude from Mexico is handled through the terminals in this port.

Corpus Christi District

1. The loading terminal belonging to the Humble Oil & Refining Co., located at Port Ingleside on the Corpus Christi channel, is 10 miles from bar at Port Aransas, and has a water depth of 25 feet. This dock is of the skeleton type, constructed of creosoted timber, with a berthing space for one vessel.

Dock is protected by water line and Foamite installation.

There are two lines, 12 and 16 inches, respectively, used in loading and having a maximum loading rate of 15,000 bbls. per hour. The refinery of the Humble Oil & Refining Co. has just recently put into operations a plant located approximately 3 miles from this terminal, and fuel oil and other refined products will be loaded through this terminal, in addition to crude.

2. On Harbor Island, which is on the Corpus Christi channel and is approximately 2 miles from the bar at Port Aransas, there are several small loading terminals belonging to the Texapata Oil Co., the Southern Pacific Railway Co. and the Magnolia Petroleum Co. These terminals are located on property leased from the Aransas Harbor Terminal Railway Co., and vessels loading and discharging at these terminals use the docks of the Aransas Harbor Terminal Railway.

These terminals were primarily used for the handling of Mexican crudes in this area and at the present time are not operating at capacity.

3. The Humble Pipe Line Co. has under construction and nearing completion a loading terminal located on Harbor Island adjoining terminals of the other companies mentioned above, which, when finished, will be composed of two creosoted timber docks, each 250 feet long and 300 feet apart, which will provide berthing space for two vessels The docks will be equipped with complete foamite installation and water fire lines.

There is one unique detail regarding construction of these docks, and that is a row of fender piling extending the entire length of the dock and approximately 7 feet from the main structure, which is composed of one straight and two batter piling at each bent of the main structure. This feature of design adds greater protection against ramming of the dock by ships.

There will be two main 16-inch lines to each dock, with a possible maximum loading rate to one dock of 20,000 bbls. per hour and to the other dock of 15,000 bbls. per hour, or a possible loading rate to both docks at the same time of 25,000 to 35,000 bbls. per hour, depending upon conditions.

The pumping equipment is all of the motor driven centrifugal type, which will allow dock crews to close gates on discharge lines while loading in cases of emergency.

Methods of Handling

The subject matter that has gone before covers a short description of practically all of the major oil terminals in the Gulf Coast area, but it would not be amiss to outline in a general way certain practices that are more or less common with all companies operating in this area.

Each terminal has ample tankage for its requirements which is located as close to the docks as practical. In order to turn ships quickly it is obvious that large suction lines from the tanks to loading pumps, as well as adequate discharge lines from pumps to docks, are necessary. At the majority of loading terminals there are two or more grades of crude or refined products which have to be handled, and in order not to have an excessive number of lines from tanks to docks all lines are so arranged that displacements can be made of both suction and discharge lines, thereby permitting the use of the same lines for more than one grade of oil.

The layouts of tanks and suction lines at an oil terminal is made in such manner as to make the shortest possible suction line and with the least possible right angle turns, which obviously reduces pipe friction, in as much as the majority of loading pumps are electrically driven centrifugal, which pumps do not have as great suction lift as other types. Also where large loading rates are desired, it is to advantage to lay large diameter discharge lines to and on the docks, which naturally reduces the head required on the pumps, and in this way large capacity pumps with low head, generally of the single stage type, are more desirable, in as much as this type of equipment is cheaper per unit.

Another deciding factor in the use of centrifugal pumps for this class of service over any other type is that discharge valves can be closed against pumps when loading ships in case of emergency without fear of endangering the system in any way.

As the modern tank ships today have more or less a standard deck connection arrangement, the discharge lines on docks are arranged with connections at intervals of 50 to 100 feet, which makes the dock connections more flexible and facilitates the connecting at as many points as desired. Modern tank ships are divided into compartments with lines leading from a common manifold, which

makes it possible to load several different grades of cargo without contamination.

Due to the high rate of loading and unloading at an oil terminal, there is a considerable fire hazard ever present, and in designing the terminal great stress is given to providing complete and approved fire protection systems for station tankage, equipment and docks. The utmost caution is taken during the loading of the ships. To further reduce fire hazard, all shore lines are grounded for static and before loading begins the ship is also grounded to shore lines to reduce the danger of static when connecting hose to ship.

No smoking is permitted on docks or the decks of vessels while loading, and tug boats and other small craft are not permitted alongside of vessel during loading.

At the majority of terminals, "slop" tanks and separators are provided to take core of ballast water from ships, as well as oil spillage on docks. During the loading of the ship all scuppers in combing are stoppered with cement or other suitable material so that overflow of oil from ship's tanks is retained on deck of ships. This oil is picked up and put back into cargo tanks.

Inspection of Cargoes

Crude and refined oil cargoes are sometimes inspected by a disinterested party, usually a licensed petroleum inspector. However, a great many cargoes are inspected by a representative of the supplier and consignee, who make the inspection and gauge the cargo jointly. The inspection of the cargo in shore tanks to be supplied vessels is usually made just prior to the arrival of the vessel in order to conserve time and not delay the starting of the cargo. After ship is docked, the cargo inspector or inspectors board the ship and make inspection of their tanks to make sure that cargo being loaded will not be contaminated by oil or water. They also line up with ship's officers the procedure to be used in loading.

At most terminals a connection gang of five or six men is maintained to connect hose to ship. Connection from dock lines to ship's connections is made by means of flexible hose. The hose ordinarily used is of heavy rubber construction, although on some docks flexible metal hose is used. The hose ordinarily used is 8 inches in diameter by 20 to 30 feet in length, and two sections of this hose are required for each connection made from dock lines to ship. For the loading of fuel and lubricating oils, hose of smaller diameter is generally used. The best of tackle and equipment is provided, and the hose, which weighs 600 or 700 pounds per length, is hoisted aboard ship by means of either the ship's booms and steam winches, or with dock derricks, which in the majority of cases are equipped with hand-operated wenches. Air wenches are provided on some of the larger docks. The usual time between the arrival of the tanker at dock until hose are connected and cargo started is only 5 or 10 minutes. Time required in loading ships, even the largest tank ship, at the major docks throughout this area is but from 5 to 10 hours.

GASSER MAKING 20,000,000 FEET RUNNING WILD

(Continued from Page 46)

San Francisco and other adjacent cities. The discovery of a large quantity of natural gas at Kettleman Hills is also of paramount importance because the Milham Exploration Co. discovered the Buttonwillow gas field near Wasco more than a year ago and has subsequently finished seven gas wells capable of producing an aggregate daily flow of better than 50,000,000 feet.

These gas wells at Buttonwillow are capable of making a much larger flow if entirely opened up but this procedure will probably not be followed as it is customary to restrict the production by beaning down the output in order to prevent the hole from sanding up.

The Milham Exploration Co. is the first concern in California to develop commercial gas production on a large comprehensive scale and while other operators exceed the potential of this concern the Milham is the first company to develop natural gas exclusively. The proposal of the Mexican Seaboard Oil Co. and the Pacific Gas & Electric Co. involving the laying of a natural gas line northward to the San Francisco Bay region is subject to the approval of California Railroad Commission. This is of special importance because of Governor Young's gas conservation program which contemplates the elimination of waste by reducing production. The proposal of the Milham interests to open up their potential production of natural gas at Buttonwillow might not be looked upon with much favor at the present time but it is logical to assume that the railroad commission will sanction this move as the existing overproduction of natural gas will probably have passed the crisis before the projected line will be ready for use.

Conservation Committee

The Santa Fe Springs operators committee appointed October 4 has just appointed a technical subcommittee to make a survey to determine as closely as possible what production may be expected from wells now drilling to the deep Buckbee zone and to secure from pipe line companies a statement as to the quantity of oil they will be able to handle from these wells. The committee will also secure from marketing companies an opinion on the economical effect of the expected production and will likewise acquaint itself with curtailment methods used in other states and incorporate this information in its report to the operators committee on October 12 at which time a definite complete working plan for gas conservation at Santa Fe Springs will be submitted for approval.

ASK 750,000 BARRELS LIMIT FOR OKLAHOMA

(Continued from Page 37)

for the Slick interests, spoke regarding the proration of oil through the agency of the Oklahoma Corporation Commission, and remarked that this was a dangerous step towards governmental control of private industry.

Herndon's Resolution

At Tuesday's meeting, Mr. Herndon was the first speaker, and introduced a resolution which stated that it was a recognized mistake for the producers to recede from the theory or the principle of conservation through proration, and that the meeting request the Oklahoma Corporation Commission: First, to increase the membership of the Seminole Advisory Committee from five to seven; second, that it accept the resignation of Mr. Pringle; third, that in Mr. Pringle's place George A. Dye, vice president of the H. F. Wilcox Oil & Gas Co., be appointed; fourth, Charles L. McMahon, independent producer, and James H. Gardner, president of the Gardner Petroleum Co., be appointed; and that, fifth, the other members of the committee be continued in office, namely, J. J. Conry, general superintendent of the Carter Oil Co.; R. F. McArthur, vice president of the Barnsdall Oil Co.; E. J. Nicklos, division manager of The Texas Company, and Joseph S. Sidwell of the Prairie Oil & Gas Co. Mr. Herndon's motion was seconded by E. B. Reeser.

Asking for the privilege of discussion, Mr. Slick stated that his position had been misunderstood and that he had always been for real conservation, and also stated that he had nothing against the Seminole Advisory Committee, and that its members were his friends.

Mr. Herndon's resolution was passed without a dissenting vote, the following companies voting for its adoption: Amerada Petroleum Corp., Atlantic Oil Producing Co., Barnsdall Oil Co., Carter Oil Co., J. E. Crosbie, Empire Oil & Refining Co., Gypsy Oil Co., Indian Territory Illuminating Oil Co., Independent Oil & Gas Co., Mid-Continent Petroleum Corp., Marland Oil Co., Minnehoma Oil Co., Phillips Petroleum Co., Prairie Oil & Gas Co., Pure Oil Co., Roxana Petroleum Corp., Shaffer Oil & Refining Co., Skelly Oil Co., Turman Oil Co., Tidal Oil Co., W. L. Kistler, Westheimer & Daube, Devonian Oil Co., Peters Petroleum Co., and Lyons Petroleum Co.

W. C. Franklin, vice president and counsel for the Tidal Oil Co., requested that it be the sense of the meeting that anyone who had any proposals regarding the work of the committee reduce the proposal to writing and file it with the committee.

It was reported that the Royalty Owners Association had been desirous of obtaining membership in the advisory committee, and Umpire Collins remarked that it seemed more advisable that the royalty owners form their own committee and meet with the Seminole Advisory Committee to work out any difficulties which might arise regarding their interests.

James A. Veasy, chief counsel for the Carter Oil Co., stated that the most unfortunate aspect of the whole affair was the assault which had been made upon the committee, and the implication that they had been unfair. He said that throughout all the Seminole problem, there was never a single instance where the committee did not take a broad view of the situation to the exclusion of their own companies' interests, and that he moved that the meeting extend to the Seminole Advisory Committee and to Mr. Pringle, the former member of the committee, its heartfelt thanks and gratitude for the wonderful work which it had done in the interests of conservation in Oklahoma. This motion was unanimously passed.

Mission Pool Meeting

A meeting of the operators interested in the Mission Pool of the Seminole Field held in Tulsa on Tuesday afternoon of this week resulted in the reaching of an agreement whereby November 15 will be regarded as the starting date for all drilling wells in the area. It now seems that about 40 locations are in favorable looking territory.

A suggestion made by one of the interested operators was that the Seminole Advisory Committee recommend that only two wells to each 40 acres of leasehold be started on November 15, and that if the lease owners desired, another two wells to each 40 could be started on January 15, a date 60 days after the original batch of wells were started. This delayed drilling activity would tend to eliminate the production of the batch of 40 wells coming in simultaneously.

BOGGY CREEK BLOWOUT PROVES TO BE ONLY A SMALL DRY GASSER

CORSICANA, Tex., Oct. 8.—Boggy Creek of Anderson and Cherokee Counties created a little more excitement the middle of the week when Humble Oil & Refining Co.'s No. 1 Roberts, a wildcat 1,600 feet southwest of production, blew out when the plug was drilled. The well was out of control for 24 hours until gas masks were rushed by airplane from Houston, but after the well was killed and screen set it was completed as only a small dry gasser, making 2,000,000 feet of gas, which has been turned into the fuel lines. The well is producing from sand at 3,634 feet.

Interest at Boggy Creek now is centered on Humble's No. 3 Mandalstam, which Monday was waiting cement to set before drilling in and testing oil-showing sand at a total depth of 3,678 feet. This well is on the tract to the northeast of the big producers in the field, but the second Mandalstam well made only a 200-bbl. well.

Humble's No. 2 James (J. R., Jr.), originally a dry gasser at 3,680 feet, but which was deepened 10 feet, starting off at 134 bbls. daily, quit flowing the past week and will be deepened further. Humble's No. 2 Holloway and No. 1 Todd, both in the same survey (David Roberts), are standing rigged up. No. 2 Weinberg, on the northeast flank of the dome, Monday was drilling hard chalk at 2,894 feet. No. 1 Guaranty State Bank, northwest flank, is shut down pending rig repairs. It was drilled to 402 feet when the derrick was pulled in.

E. L. Smith and associates' No. 1 River Bed at Boggy Creek has made good progress, and the past week topped the chalk. It now is drilling below 2,700 feet. This test also is of particular interest, being about midway on the east flank between Humble's Elliott Clark well on the extreme north and the production on the southeast flank. At present there is a gap of about 4 miles between the Clark well and the southeast flank wells.

On the Bullard Dome prospect in the southwestern corner of Smith County, Gulf Production Co. still was drilling Monday on its No. 3 McCammond, Vincent Moore Survey. Total depth of the hole is below 4,200 feet. The test is to be drilled to the Woodbine, but at present is considerably below where the sand was expected.

The latter company has just completed leasing a block of about 1,000 acres in Anderson County about 10 miles northwest of Palestine, centering additional interest in that part of the State comprising Anderson, Cherokee, Smith and Rusk Counties. Gulf is reported to have paid $28,000 for the acreage.

Daily average production of East Central Texas fields, including the Boggy Creek salt dome and the fault fields of the Corsicana district, totaled 23,319 bbls. the past week, an increase of 460 bbls. The Boggy Creek Field continues to be held down to around 1,900 to 2,100 bbls. because of lack of outlet and storage facilities. By fields the production was:

EAST CENTRAL TEXAS

Boggy Creek	2,068
Cedar Creek	300
Currie	699
Mexia	6,595
Minerva	795
Nigger Creek	495
Powell	10,317
Richland	475
Thrall	25
Wortham	1,650
Total this week	23,319
Total last week	22,859
Increase	460

GAS FOR SAN FRANCISCO WILL FOLLOW MERGER

SAN FRANCISCO, Calif., Oct. 8.—Pacific Gas & Electric Co., Southern California Gas Corp. and Pacific Lighting Corp. have formed the Northern California Gas Co. to build a 20-inch natural gas pipe line, with an installed capacity of 50,000,000 feet daily and an ultimate compressor capacity of 100,000,000 feet, from Buttonwillow, 220 miles north of Milpitas, with lateral lines to San Jose, Fresno and other adjacent cities.

Southern California Gas and Pacific Lighting jointly will build 92 miles 4-inch line from Ventura to Buttonwillow at a cost of about $2,500,000. Pacific Gas will build a line from Milpitas to San Francisco and Oakland around San Francisco Bay. Construction of the pipe lines is expected to take about a year. Pacific Gas will also build 20,000,000 feet additional holder capacity. Total investment is expected to be $16,000,000, of which Pacific Gas will bear $9,000,000 and Pacific Lighting and Southern California Gas $7,000,000.

Pacific Gas is entering into contracts with Pacific Lighting and Southern California Gas and also with Milham Exploration Co., subsidiary of Mexican Seaboard Oil, to take natural gas for bay regions.

A contract has been concluded by Mexican Seaboard Oil Co. with Pacific Gas & Electric Co. for 10 years, with renewal at option of either party for an additional five years. Pacific Gas & Electric Co. will take an average of 40,000,000 feet of gas daily.

Colombia Wants New Tropical Oil Contract; Cancels Barco Grant

NEW YORK, Oct. 8.—According to reports from Bogota, a committee of the Chamber of Deputies, which has been studying the contract under which the Tropical Oil Co. is operating in Colombia, has recommended its cancellation. Tropical Oil Co. is a subsidiary of the Standard Oil Co. of New Jersey. The report of the committee would authorize the government to execute a new contract with Tropical Oil on the basis of new oil regulations now before the Colombian Congress.

Officials of the Tropical Oil Co. are quoted as declaring the committee's action surprising, saying: "We have been operating in good faith in Colombia for nearly 10 years, during which time we have invested many millions of dollars in petroleum development work. This contract was approved in 1919 by a unanimous vote of the cabinet, including President Abadia. Under the Colombian laws only the courts can declare the contract invalid and then upon the application of the contracting party."

It is expected that any voiding of the contract will become the subject of diplomatic negotiations by this country.

The Carib Syndicate, Ltd., and the South American Gulf Oil Co. are taking all possible steps to obtain from the Colombian government a reconsideration of its action in voiding oil concessions issued to American companies, according to A. H. Bunker, president of Carib Syndicate, Ltd.

In a letter to stockholders, Mr. Bunker says: "The cancellation constitutes the expropriation of property rights of American citizens without compensation, and it is not believed that the Colombian government, in the interests of the future welfare and development of the country, will find it desirable to maintain the position which it has assumed. Colombia has too much at stake in the maintenance of friendly official and business relations with the United States to warrant the risking of these relations by an act of confiscation such as the cancellation of the Barco concession would constitute. For this reason it is felt that there is no cause to view the present situation with respect to the Barco concession with pessimism. The DeMares concession, now being successfully operated by the Tropical Oil Co., has been cancelled four times, and as many times reinstated."

LULING PRODUCTION LESS IN SEPTEMBER

SAN ANTONIO, Tex., Oct. 8.—With two more wells than in August, the Luling Field made an average of 51 bbls. a day less during the month of September. Total number of wells in August was 573 and in September 575. Average daily production in August was 13,847 bbls. and in September 13,796 bbls. Total production during August was 429,257 bbls. and in September 413,880 bbls., there being one less day in September.

The report for the Luling Field production covers the new Joe Bruner Field which is an entirely separate field but being only a few wells the oil is run in with the Luling oil.

The Texas Company's No. 2 Branyon is showing to be a remarkable well. It came in some months ago flowing about 150 bbls. a day and wells drilled all around it were dry. The September pipe line reports show it is still making on the pump 43 bbls. a day.

Lutex Oil, Inc.'s No. 1 Davis, the discovery well of the Joe Bruner Field, was not on production the full month of September but it had an average of 31 bbls. a day to its credit. The same company's No. 1 Wilson made 4 bbls. a day on the average for the month.

Golden West Oil Co.'s Nos. 1, 2 and 3 Wilson are credited with an average of 215 bbls. a day for the month. No. 1 Wilson was on production the entire month but No. 3 Wilson was on production only the latter part of the month.

Of the total production of the Luling Field 11,833 bbls. is run by the Magnolia, average per day, 1,119 bbls. by the Grayburg company, 608 bbls. by the Rio Bravo company and 234 by the Golden West company.

In storage in the Luling area at the close of September was 1,793,395 bbls. of oil. Grayburg has 94,000 bbls. in storage and almost all of the remainder is in the tank farm of the Magnolia.

CONSUMPTION OF OIL AND COAL IN SHIPS

With the increase in oil burning steamships and motor ships the consumption of oil fuel has naturally grown in proportion, but it is interesting to note that at British ports during the past 18 months there has been an increase in the quantity of coal shipped for bunkers for vessels in the foreign trade, and at the same time a small decrease in the quantity of bunker oil shipped. This situation is undoubtedly due to the very low coal prices prevailing during this period.

The following figures show the trend of this trade at British ports:

Bunker Coal and Oil Shipped for the Use of Steamers Engaged in Foreign Trade at British Ports

	COAL Long Tons	OIL Imperial Gallons
1913	21,023,693	†
1922	18,259,027	141,329,977
1923	18,158,168	221,847,013
1924	17,688,897	251,967,059
1925	16,435,646	252,178,073
1926	7,587,793*	253,201,421
1927	16,836,385	253,168,196
1928 (Six Months)	8,213,832	114,584,459

* Due to coal str.ke.
† Figures not available.

The large increase in recent years in the use of oil fuel for steam raising and in motor ships, is strikingly shown by the latest edition of Lloyd's Register Book. The following figures, comparing 1914 and 1928, show comparative percentages of the number of ships in operation, with the various leading types of propulsion:

Percentage of Total Gross Tonnage

Sailing vessels	8.06	2.68
Oil in internal engines	0.45	8.11
Oil fuel for boilers	2.65	28.46
Coal	88.84	60.75
Total	100.00	100.00

Of the 3,745 oil fuel burning ships, 824, of 5,329,350 tons, are registered in Great Britain and Ireland, and 1,818, of 8,892,942 tons, are registered in the United States. While oil is not always used, of course, on steamers fitted for burning oil fuel, nevertheless these figures show the extent to which oil burning equipment has been installed in ocean going vessels. At the same time, 2,933 vessels, of 5,432,302 tons, are fitted with internal combustion engines. During the last twelve months there has been added to the world's mercantile marine only 280,000 tons of steamships with reciprocating engines, against 453,000 tons of turbine-driven ships and 1,161,000 tons of motor ships.

The maritime country having the largest percentage of its vessel tonnage in motor ships is Denmark, with 37.9. In Sweden, motor tonnage represents 34.8 per cent of the steam tonnage; Norway 33.9; Germany 14.7; Great Britain 8.4, with Japan and the United States having only 3.9 and 3.7 per cent, respectively.

OIL COMPANIES SUSTAINED

WASHINGTON, D. C., Oct. 8.—Ben S. Thurlow and other owners of land on the Arkansas River in Cowley County, Kansas, today were refused reviews by the Supreme Court in three cases involving the right of the Waite Phillips Co., the Independent Oil & Gas Co., and the Marland company, all Oklahoma corporations, to operate oil and gas wells on the river bed.

The land formed in the river bed was found valuable for oil and the lower Federal Courts sustained the companies in claiming the leases covered all the land including the accretion.

INTERNATIONAL'S PERU AND COLOMBIA OUTPUT

CHATHAM, Ontario, Oct. 6.—Official figures show that the August production of the International Petroleum Co. in Colombia totaled 1,689,428 bbls. against 1,894,834 bbls. in July and 1,535,800 bbls. in August, 1927. Twelve wells were completed in August of this year with an average initial output of 643 bbls., and 27 drilling rigs were in operation. Crude shipments from Cartagena in August were 1,484,488 bbls., against 1,415,988 bbls. in July and 1,285,788 bbls. in August, 1927.

The company's crude output in Colombia in the first eight months this year totaled 13,314,422 bbls., against 8,680,176 bbls. in the corresponding 1927 period. The average initial production of 74 wells completed in the first eight months this year was 973 bbls., against an average of 1,200 bbls. for 50 wells completed in the 1927 period; while 24 rigs were operating this year against 21 in the first eight months of 1927.

Crude shipments totaled 11,859,237 bbls. in the eight months ending August 31, 1928, compared with 7,513,523 bbls. in the 1927 period.

The International Petroleum Co. completed 11 wells in Peru in July, with an average initial output of 279 bbls., against 12 in June with an average output of 431 bbls. Production in July totaled 751,188 bbls., against 789,700 bbls. in June. In the first seven months of 1928, production in Peru totaled 5,029,169 bbls., against 4,504,244 bbls. in the same period of 1927. Shipments were 1,577,634 bbls., against 2,027,563 bbls.

In July 57 rigs were operating, compared with 50 rigs operating in June.

HOLD SALES CONFERENCE

A general sales conference was held by the Barnsdall Refineries, Inc., at its plant in Wichita, Kans., on October 8 at which 20 executives and company salesmen were present. The conference was headed by George Locke, vice president of the Barnsdall Refining Co. and F. E. Holsten, vice president in charge of the manufacturing department of the Barnsdall Refineries, Inc. Other representatives attending the conference included H. M. Edinger, treasurer; H. L. Hughes, sales manager; W. Wiley Rice, assistant sales manager; J. C. Evans, assistant sales manager, and E. R. Wiles, technical superintendent. The sales representatives of the company attending included John T. White, St. Paul, Minn.; D. C. Miller, Milwaukee; E. R. Burger, Indianapolis; George W. Zell, St. Louis; Morell Law, Los Angeles; H. H. Roer, Omaha; D. E. King, Davenport, Iowa; W. M. Smith, Springfield, Ill.; D. H. Roberts, Oklahoma City; J. T. Kerin, Wichita.

MAGNOLIA P. L. STATEMENT

The Magnolia Petroleum Co.'s pipe line statement for September shows runs from Oklahoma and Kansas fields of 2,021,613 bbls., daily average 67,387 bbls.; shipments 1,992,678 bbls., daily average 66,425 bbls.; stocks in Oklahoma and Kansas 8,805,178 bbls., an increase of 26,408 bbls. over the previous month.

In Wichita, Wilbarger and Archer Counties, Texas, the company's average daily runs were 7,065 bbls. and shipments 8,906 bbls. In the Petrolia district runs were 91 bbls. and shipments 91 bbls. In Eastland and Stephens Counties its runs were 1,178 bbls. per day with no shipments. The company's total stocks in North Central Texas were 268,898 bbls.

MATHEWS JOINS BATTENFIELD

CHICAGO, Oct. 8.—Ralph A. Mathews who has been in charge of lubricating oil sales for the Roxana Petroleum Corp. at St. Louis has gone with the Battenfield Oil & Grease Co. of Kansas City. Mr. Mathews is an engineer who has made a special study of lub oil manufacture and marketing.

SOMETHING ABOUT GAS LIFT

"Something About Gas Lift" is the subject of a practical handbook prepared by M. E. Nicklin, of the oil industry equipment division of the Waukesha Motor Co., Waukesha, Wis., and published by that company. Details of gas lift operation are covered under the general headings, "A General Idea of Gas Lift," "Actual Practice," "The Economics of Gas Lift," and "What of the Future?" The character of the contents is indicated by the fact that Mr. Nicklin, for general information and statistics, has drawn upon D. B. Dow, T. A. Stevens, Jr., and Paul C. Wallack, of the Indian Territory Illuminating Oil Co.; S. F. Shaw and J. A. Towart, of the Carter Oil Co.; H. P. Porter and Robert Wright, of the Gypsy Oil Co.; C. V. Millikan, of the Amerada Petroleum Corp.; G. E. McConnell, of the Roxana Petroleum Corp.; J. R. McWilliams, of the Skelly Oil Co.; K. C. Sclater, of the Marland Oil Co.; R. R. Brandenthaler and W. S. Morris, of the United States Bureau of Mines; the petroleum division of A.I.M.E., and the American Petroleum Institute.

GENERAL BUILDS LARGE REFINERY IN CALIFORNIA

NEW YORK, Oct. 6.—The General Petroleum Corp. of California has completed plans for the immediate construction of a 30,000 bbl. refinery on a 950 acre tract at Torrance. The refinery, with nine 134,000-bbl. steel tanks, will involve an expenditure of $3,000,000.

The new plant will have two distillation units and is expected to go into production by February 15, next. The plant will handle the expected increased output of the Santa Fe Springs and Signal Hill Fields, where considerable drilling actively is now in progress. The storage tanks will be completed by January 1. The General Petroleum Corp., which is a subsidiary of the Standard Oil Co. of New York, has refineries located at Lebec, Vernon and Olinda, Calif.

FAIR BUSINESS IN GULF

HOUSTON, Tex., Oct. 9.—Gulf Coast refiners continued to do a fair amount of spot business in lubricating oils and with additional inquiries coming in for winter stocks the market looked firm. Fuel oils, although being held a little tighter, found no improvement in demand and stocks indicated heavy accumulation. Several refiners reported their daily sales of lub stocks greater than their production but this was not general and prices remain unchanged. While it is anticipated that October business will exceed that of September no important price changes are expected the rest of the month.

S. C. RANKIN DEAD

RANKIN, Tex., Oct. 8.—Simon C. Rankin, 62, oil field worker, died here Sunday after being found seriously ill. A note found in his pocket read, "Whoever finds me notify B. L. Agnew of Texon, Tex." Rankin was identified by a passport issued at Burmah, India, where it is believed he spent three years. He is said to have two sons connected with oil companies in Rumania. A picture found among his effects bore a Los Angeles address.

J. M. VETTER RESIGNS

HOUSTON, Tex., Oct. 8.—J. M. Vetter, of the land department of the Rio Bravo Oil Co., Houston, has resigned, effective October 15, to enter partnership with W. F. Bowman, geologist, in consulting work. Mr. Vetter will be retained by the Rio Bravo Oil Co. in a consulting capacity.

Technical Questions Answered

BY CHARLES K. FRANCIS, PH.D., TECHNICAL EDITOR

This department of The Oil and Gas Journal is devoted to the manufacturing branches of the oil industry.

Those connected with the refining of crude petroleum, the manufacture of natural gasoline and closely allied industries are invited to submit their problems to Dr. C. K. Francis, technical editor. The department was created for the purpose of aiding managers, superintendents, engineers, chemists and all those engaged in the various phases of plant operation; also those connected with the marketing and utilization of petroleum products.

Questions should be submitted in as much detail as possible so as to assure a satisfactory answer.

All inquiries should be signed and if other than the given initials are to be used please indicate the desired letters.

Questions involving patented processes, intricate formulas and calculations and estimates of costs, for obvious reasons, cannot be answered. The replies will appear on this page within a reasonable time.

TETRAETHYL LEAD AND IRON CARBONYL

What other chemicals besides ethyl lead are successfully used in producing antiknock gasoline?—K. L. R.

We have not enough space available to print a list showing all names of substances which have been proposed as antiknock agents. As a matter of fact there are only two substances which have been recognized as possessing merit and have been used on a commercial scale. These are tetraethyl lead and iron carbonyl.

Tetraethyl lead is used over an extensive territory in the United States in what is called ethyl gasoline and to some extent in England as ethyl petrol. Iron carbonyl is of German origin and has been introduced in that country under the name Motalin.

Substances of this nature must function when added in very small quantities to the gasoline. One part of tetraethyl lead to 1500 parts by volume of gasoline has been used. About one part of iron carbonyl in 500 parts of gasoline is the reported concentration of Motalin. These concentrations are usually equivalent, in reducing the knocking, to a mixture of 40 per cent benzol and 60 per cent gasoline

STABILIZATION OF NATURAL GASOLINE

I believe stabilization of natural gasoline is done in the United States by taking out propane, the process including warming until a pressure of 360 pounds per square inch is obtained. I think the temperature at this point is 80 degrees Centigrade, at which temperature the vapor pressure of propane should be approximately 25 kilograms. What is the average percentage of propane contained in American natural gasoline before its stabilization? How much time is necessary for the treatment of gasoline stabilization before the propane is completely evaporated?—P. E. S.

The method now generally accepted as the best is to pump continuously the raw gasoline under pressure through heat exchange into a fractionating and stripping column of the bubble type—a bubble tower. Additional heat is applied at the bottom of the bubble tower, by means of a closed steam heater, to effect complete stripping. The tower is operated at 175 to 250 pounds gauge pressure. Temperature at the top is maintained at around 210 degrees Fahrenheit, and at the bottom at about 275 to 320 degrees Fahrenheit. Pressure and temperatures are varied to give the product desired. Control is adjustable and simple, being effected with automatic devices. In general, to produce Grade AA natural gasoline, all of the fixed gas, propane, and about half of the butanes are removed. Separations are very sharp.

The pressure of the system corresponds to the vapor pressure of the base gasoline at the temperature of reboiling. The reflux fraction having a vapor pressure of 175 pounds gauge at 85 degrees Fahrenheit is somewhat higher than that of propane since an appreciable quantity of ethane is present in this fraction. The low feed gasoline is pumped into the fractionating column upon a tray corresponding in composition to the gasoline itself. The raw gasoline is preheated to a temperature corresponding to the temperature at the point of entry into the tower. This is accomplished by a heat exchanger in which the raw gasoline is preheated by the stabilized gasoline leaving the base of the column. By this method the raw gasoline entering the system at an intermediate tray and refluxing downward against the hot vapors ascending is completely stripped of its propane content before it reaches the base.

In instances where the raw gasoline contains more butane than can be retained in the finished product, the reflux temperature is raised so as to give a reflux containing enough butane to cause the vapors leaving the column above the reflux to contain the quantity of butane necessary to be removed from the finished gasoline. The refractionation of natural gasoline is similar to the fractionation of water and alcohol systems, the difference being in the pressures and temperatures necessary to give the necessary refluxing of light hydrocarbon gases.

Low-pressure stabilization by means of a single-column or cold stabilization may be practiced also with satisfactory results provided stabilization of the base material only is desired. The gases taken from the stabilizer or fractionating column will contain essentially propane while some butane or iso-butane may be taken from the column, however, without any degree of consistency.

In high-pressure stabilization such as is discussed in the first part of this answer, gasoline is treated only once for removal of propane in order that the gasoline may be termed commercially free of propane.

PRINCIPLE OF DIESEL ENGINE AND STARTING

In what respect is the Diesel engine unlike other internal combustion engines? How are they started?—C. T. A.

The principle upon which the Diesel was designed is based on the Carnot cycle. This requires heat to be added at the maximum temperature and then exhausted at the lowest temperature. The engine, according to the original patent of 1892, was to operate with powdered coal. The air was to be introduced, then compressed to such an extent that heat was developed with the temperature above the ignition point of the powdered coal. The fuel was to be run into the cylinder at a rate which would permit the heat of friction to take away enough of the heat of combustion to maintain constant temperature. In this way the temperature of the cylinder would be kept constant while the fuel was being introduced. The gases were to expand without losing or absorbing heat, except that used in doing work. The original engine was designed without a water jacket for cooling since there was to be little or no heat lost.

Morrison in Diesel Engines states that the chief point which distinguishes the Diesel from other forms of the internal combustion engine is the compression of a charge of air until the resulting high temperature is sufficient to ignite the fuel without the aid of any internal object. The fuel is forced into the cylinder by a blast of air from a compressor.

The same authority, page 539, gives a detailed discussion covering the operating procedure and under starting says: "The method for starting adopted by all Diesels embodies the use of high-pressure air, which by entering one or more cylinders forces the piston downward. The air is discharged at the end of the stroke and at the time of fuel injection another air charge is introduced through a mechanically operated air-starting valve. This procedure is continued until the other cylinder starts firing, whereupon the air supply is shut off."

PACKED AND BUBBLE PLATE TOWERS

Have you any information showing the operating efficiences of packed towers compared with bubble plate towers?—E. I. D.

Various forms of towers, including packed towers and bubble plate towers, were discussed in an article by F. C. Koch, Comparison of Towers in Refining, in The Oil and Gas Journal, September 22, 1927, page 216, from which the material below is taken:

Packed towers have not found the wide application that their efficiency deserves, due chiefly to lack of knowledge of the proper proportions of the column needed for each particular duty and each particular type of packings, as well as the extreme care which must be used in both the erection and operation of the tower if proper results are obtained. Most packed towers in the industry do not have the proper diameter, proper height, or proper distribution to give good results.

There are many types of manufactured packings in use, the most important of which are spiral tile, Heckenbleickner blocks, and Raschig rings. The first essentials of a good packing material are to have a large amount of free area and surface exposed per cubic foot. The larger the amount of free area the more vapor and liquid the column will handle per square foot of cross-sectional area. The more surface exposed the less the height of packing must be to accomplish the same result.

Most "home-made" packing is crushed granite screened to various sizes, such as 1-inch to 1½ inches, one-half inch to 1 inch, one-fourth inch to one-half inch. The smaller the size of packing used, the lower will be the height of the tower needed to accomplish a certain result, although the greater in diameter it will have to be.

Screened gravel, limestone, etc., should never be used in fractionating columns, as it has a tendency to decompose under heat and will also be attacked by various alkalis and acids. Manufactured packings and crushed granite are superior in this respect, being practically impervious to corrosion or attack by chemicals.

In order to accomplish a certain result with a particular type of packing, it might be necessary to use a 6-foot diameter column with 30 feet of packing. To accomplish the same results, both as regards efficiency and capacity, with a slightly larger packing, it might require a column 5 feet in diameter with 40 feet of packing. Manufactured packings, while practically always superior to other varieties, cost considerably more.

If a packed tower is properly designed and operated it will give as good results as a bubble tower; in fact, some very efficient packings have been developed which are more efficient per foot of height than a bubble tower. However, these packings are so small and expensive that it is impractical to use them on plant equipment.

Packed towers are used to a certain extent on (1) crude batteries; (2) rerun stills, and (3) cracking plants. The cost of a good packed tower is probably as great, if not greater, than the equivalent bubble tower.

The type of fractionating column which does the major portion of the work in petroleum distillation is undoubtedly the bubble tower. It has attained this position by virtue of its high efficiency, good capacity and ability to operate for long periods before becoming plugged, and exceedingly wide range of operating capacities.

ANALYSIS OF OIL SHALES

We have had the same shale deposit tested by two different chemists but the reports do not agree because the yields are different and the general character of the products obtained not at all alike. We divided the crushed shale sending the same quantity to each. What we would like to have you tell us, is it possible to get a different kind of product from the same shale?—R. L. M.

It is not only possible to get a different product from the same shale but this is exactly what usually happens when a shale is run by different persons.

You will find many helpful suggestions about the testing of oil shale in Bureau of Mines Bulletin 249, Manual of Testing Methods for Oil Shale and Shale Oil, by Lewis C. Karrick. It is stated in this bulletin that the quantity of oil obtained from any shale depends on the rate of retorting, the larger quantity being obtained by retorting rapidly. A retorting period of two hours gives 2 to 5 per cent greater yield than when this period is eight hours.

"Not only does the rate of retorting influence the yield of shale oil but it greatly affects the quality of the oil—so much so that the relative values of shale oils can not be estimated from the yields and qualities of the crude oils unless the rates (temperatures) of retorting are known.

"Rapid retorting of shales gives large yields of crude oil having a low A.P.I. gravity, high melting point, small percentage of motor fuel, low degree of saturation of the light distillate, and high carbon residue. An oil produced by rapid retorting will usually contain carbon and dust particles in suspension, because of the high temperature and the high velocity at which the vapors escape from the retort.

"Slow retorting gives lower yields of oil than fast, but the A.P.I. gravity is high, melting point low, percentage of light distillate in the oil is high and the carbon residue is low. The crude oil produced in this manner is practically free from dust and carbon particles and is superior in odor and general appearance to that produced rapidly. Slow retorting tends to yield oils that are clear and transparent, noticeably green in color, and usually flourescent."

PRODUCTS FROM SEMINOLE OIL BY SKIMMING

Will you please advise me what per cent of gasoline, fuel oil and other products is recovered from crude oil from the most prolific sand in the Seminole Field by a skimming plant or refinery without cracking facilities.—W. J. M.

The yields given below are those obtained by skimming a 39 gravity oil:

	Per cent
Gasoline, 427 endpoint	41
Kerosene, 170 flash	7
Gas oil, gravity 34	26
Fuel oil, gravity 18	22

Government Gasoline Specifications

Have Responded to Changing Manufacturing and Market Conditions. Certain Revisions Under Consideration. Volatility Tests

By A. L. Foster
Associate Chemist, Bureau of Mines

On July 31, 1918, an order was issued by President Wilson establishing a Committee on Standardization of Petroleum Specifications, under the general supervision and jurisdiction of the United States Fuel Administrator. The first specifications adopted by this committee were published as Bulletin 1, and became effective in October, 1918.

In addition to standards for three Navy fuel oils, the bulletin gave a general descriptive specification of three grades of aviation fuel, and included requirements for acidity, the "doctor" test, corrosion and gumming, and volatility; vapor pressure and volatility only were specified for motor gasoline. Methods for conducting all tests were included in the bulletin. The distillation range of motor fuel was required to be from 140 degrees Fahrenheit initial boiling point to an endpoint of 428 degrees Fahrenheit with a minimum recovery of 95 per cent. It was from this early specification that the expression "Navy gasoline" came into common use.

During the next year, 1919, several hundred samples of commercial gasoline sold throughout the country were collected and analyzed by the Bureau of Mines. As a result of these findings the committee revised the motor gasoline specification as follows; the endpoint temperature was raised to 437 degrees Fahrenheit; the 90 per cent point was changed from 356 degrees Fahrenheit to 374 degrees Fahrenheit; the reading of the temperature at 45 per cent distilled, maximum 275 degrees Fahrenheit, was changed to 50 per cent distilled at 284 degrees Fahrenheit. This elevation of the endpoint and 90 per cent point decreased the average volatility of the fuel, but the resulting distillation curve more nearly agreed with the average curves of commercial gasolines on the market at that time. The revised specifications were published as Bulletin 3, effective November 25, 1919.

In 1920 a large amount of work was done on standardizing petroleum specifications in general. The specifications published in Bulletin 5, adopted and effective as of December 29, 1920, covered nearly all petroleum products used by the Federal Government at that time. The previous work on gasoline specifications had been largely of an experimental nature, and Bulletin 5 showed great improvement over the earlier publications. Requirements were more definitely stated, methods were more exact and their descriptions more concise, and the entire publication showed the results of careful study and wider experience. The only addition to the gasoline specifications was the introduction of a "water white" color requirement.

In 1921 the Committee on Standardization of Petroleum Specifications was superseded by the Interdepartmental Committee on Standardization of Petroleum Specifications, which in turn was discontinued by order of the Bureau of the Budget, under whose jurisdiction the committee was employed at that time. By the same order there was formed the Interdepartmental Petroleum Specification Committee. A technical committee selected by the Interdepartmental Committee drafted a revised set of specifications which were published by the Bureau of Mines as Technical Paper 305. At the same time testing methods were revised and published as Bureau of Mines Technical Paper 298. During the development of these standards, the cooperation of prominent men in the petroleum industry was invited, and from among their number an advisory board was appointed. The American Society for Testing Materials also co-operated, and several of the testing methods of that society were adopted and included in Technical Paper 298. Two changes were made in the gasoline requirements. The Saybolt chromometer was adopted for the determination of color and a standard of not lower than plus 16 Saybolt was established. A corrosion specification was introduced, requiring the fuel to show no discoloration on a clean strip of copper when immersed in the gasoline for three hours at 122 degrees Fahrenheit.

TABLE 1—DEVELOPMENT OF FEDERAL SPECIFICATIONS FOR GASOLINE

Date of publication—	Corrosion test—	Sulphur, maximum per cent	Distillation, degrees Fahrenheit						Maximum color
			Initial point	Temp. at 20 per cent	50 per cent	90 per cent	Dry point	Recovery per cent	
Bulletin 1*	.....	....	60°C. 140°F.	105°C. 221°F.	135°C.† 275°F.	180°C. 356°F.	220°C. 428°F.	95	.....
Bulletin 3*	.....	....	60°C. 140°F.	105°C. 221°F.	140°C. 284°F.	190°C. 374°F.	225°C. 437°F.	95	.....
Bulletin 5*	.....	....	60°C. 140°F.	105°C. 221°F.	140°C. 284°F.	190°C. 374°F.	225°C. 437°F.	95	Water white
Technical Paper 305, January 23, 1922	No discoloration	....	60°C. 140°F.	105°C. 221°F.	140°C. 284°F.	190°C. 374°F.	225°C. 437°F.	95	+16 Saybolt
Technical Paper 323, October 31, 1922	No discoloration	....	55°C. 131°F.	105°C. 221°F.	140°C. 284°F.	200°C. 392°F.	225°C. 437°F.	95	+16 Saybolt
Technical Paper 323A, March 18, 1924	No discoloration	0.10	55°C. 131°F.	105°C. 221°F.	140°C. 284°F.	200°C. 392°F.	225°C. 437°F.	95	+16 Saybolt
Technical Paper 323B, October 21, 1927	Extremely slight discoloration	0.10	55°C. 131°F.	105°C. 221°F.	140°C. 284°F.	200°C. 392°F.	225°C. 437°F.	95	.....

*Reports of Committee on Standardization of Petroleum Specifications.
†Temperature at 45 per cent distilled.

Following the adoption of the standards in Technical Paper 305, representations were made to the committee, by responsible and prominent persons and organizations of the petroleum industry, indicating that restrictions in the manufacture in motor fuels were imposed on refiners by existing distillation requirements which tended to cause a shortage in the supply of gasoline. Consumption was increasing more rapidly than the supply of crude, and it might soon prove a difficult task for refiners to meet the demands for gasoline throughout the country without including the higher boiling fractions excluded under the then effective standards. After considerable study and investigation new specifications were adopted as of October 31, 1922. The revised specifications and methods were published as Bureau of Mines Technical Paper 323. The 90 per cent temperature was raised from 374 degrees Fahrenheit to 392 degrees Fahrenheit, and the initial boiling point was lowered from 140 degrees Fahrenheit to 131 degrees Fahrenheit; other requirements continued unchanged. These changes increased the amount of gasoline which could be taken from any crude, and therefore the total yield of motor fuel which could be obtained from the existing supply was correspondingly increased.

These specifications were in effect for one and a half years. During this time a great deal of investigation was carried on by government technical organizations as well as by the automotive and refining industries. Corrosion of the internal combustion motor and its accessories was an ever present and growing problem. Study of the causes of this trouble showed that when a sulphur-containing fuel is burned, sulphur oxidizes, and sulphur dioxide, with possibly some trioxide is formed. Water is also formed during the combustion and is condensed in the crankcase; the sulphur oxides and water combine to form sulphurous and sulphuric acids, which produce corrosion of automotive parts.

Because of this formation of corrosive acids the next revision of standards included the requirement that the sulphur content of U. S. Motor gasoline should not exceed 0.10 per cent. A method was adopted for the determination of sulphur—the lamp method—wherein the sulphur oxides formed during combustion of a sample are absorbed in standard caustic, and the percentage of sulphur is calculated. The new specifications were published as Bureau of Mines Technical Paper 323-A, and became effective March 18, 1924.

For some time trouble had been experienced in satisfactorily interpreting the results of the corrosion test. This test required that a polished copper strip should show "no discoloration" after immersion in a sample of gasoline for three hours at 122 degrees Fahrenheit. The difficulty was in agreeing on what should be considered discoloration, in the meaning of the test. As a consequence frequent disagreements resulted between buyer and seller regarding the interpretation of the corrosion test. To avoid these differences the technical committee on lubricants and liquid fuels of the Federal Specifications Board changed this requirement to read "extremely slight discoloration." This revision became effective October 21, 1927.

When the antidetonant, tetraethyl lead came into use a good deal of agitation arose in this country regarding the possibility that the use of this substance in motor fuels might prove harmful to the health of human beings. The Bureau of Mines in co-operation with the United States Public Health Service made a study of the problem and, as one of their recommendations, advised the coloring of "ethyl gas" with some distinctive color as a warning against using this gasoline for purposes other than motor fuel. Chiefly for this reason it was decided to eliminate the color item from the specifications. This became effective on March 9, 1926. The amended specifications were published as Bureau of Mines Technical Paper 323-B, effective on October 21, 1927. The specifications as given in that paper are now in force, and govern all federal purchases of petroleum products.

Thus, in the manner briefly described above, federal specifications have been developed to their present form. Table 1 shows the changes in federal specifications for gasoline with the dates on which the specifications went into effect, and the title of the publication in which they were announced.

Changing conditions make it necessary to study the requirements and to constantly revise the specifications from time to time, so that the work of the committee is continuous. Improvements in automotive design and equipment, and the necessity of providing sufficient motor fuel to meet the ever-increasing consumption by the motoring public soon render obsolete any gasoline specifications that can be prepared.

These federal specifications, it should be remembered, govern only materials purchased by the Government for official use by its departments. There is no obligation whatever on refiners to furnish the private consumer with gasoline agreeing with these requirements. By common consent, however, these specifications have been accepted generally throughout the country, as a standard of quality of the gasoline sold to the public.

Suggested Changes

For several years the Bureau of Mines has made semiannual studies of the motor fuels sold in the United States. This work has been accomplished by collecting samples from garages, filling stations, and other places where gasoline is retailed in representative cities throughout the country. The samples are analyzed and the results published semiannually by the bureau. Reports of the results of these surveys may be obtained from the United States Bureau of Mines, Washington, D. C. A study of the analyses published in these papers shows that since about 1922, the year of the adoption of the specifications published in Technical Paper 323, the average distillation temperatures of commercial gasolines have been decreasing steadily—that is, the gasoline as sold to the average motorist is becoming continually more volatile. At all points except the "90 per cent distilled," the average temperature is well below the maximum established by federal standards.

Table 2 gives the adopted maximum temperatures required by federal specifications and the average temperatures of gasoltnes analyzed in the July, 1928, survey.

Efforts toward the downward revision of the distillation requirements have been made in order to permit the Government to specify a motor fuel for its use more nearly similar in volatility to the average sold throughout the United States. This problem is under consideration and study by the Technical Committee. Several revisions regarding volatility and other items in the present standards have been proposed to the committee or suggested in the technical press. It is thought by some that the initial boiling point is not the best indication of the initial volatility of a fuel. The suggestion has been offered that the endpoint temperature is superfluous and could be eliminated. Some technologists believe that the temperature at "90 per cent over" is a fair indication of the relative volatil-

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TABLE 2—COMPARISON OF FEDERAL SPECIFICATION TEMPERATURES WITH TEMPERATURES OF GASOLINES ANALYZED IN JULY, 1928, SURVEY

	Temperature at initial boiling point	20%	50%	90%	Endpoint
Federal specifications	55°C. 131°F.	105°C. 221°F.	140°C. 284°F.	200°C. 392°F.	225°C. 437°F.
Survey average, July, 1928	38°C. 100°F.	88°C. 190°F.	130°C. 265°F.	194°C. 380°F.	212°C. 413°F.

Of Interest to Sales Departments

NEW COMPANIES SELL TO SPANISH MONOPOLY

NEW YORK, Oct. 8.—Pan American Petroleum & Transport Co. has received a contract for supplying the Spanish oil monopoly with a portion of its refined oil requirements, it is reported here. The contract is not believed to be a long-term one. Two cargoes have already been purchased for early delivery, and other cargoes will be taken at intervals.

Previously, the Spanish oil monopoly has received most of its supplies from the American Republic Corp., Cities Service Co. and the Russian Naphtha Syndicate. Several weeks ago it became known that Pan American and Atlantic Refining Co. were negotiating with the Spanish oil monopoly.

Reports from Spain indicate that the oil monopoly is not making the expected progress, and is showing losses instead of the large profits looked for. This is due in part to the fact that the monopoly has not been able to materially increase prices over those prevailing before the monopoly became effective last year. Up to that time, it is believed, prices charged for petroleum products in Spain by outside companies, notably Standard Oil Co. of New Jersey, Royal Dutch-Shell, and several French concerns, were under the world parity, in as much as the concerns mentioned were engaged in establishing distribution in Spain, and were obliged to quote low prices to develop the demand for their products.

While Spain is expected to continue a heavy buyer of American refined products, further steps are being taken to make the state monopoly effective by increasing refinery capacity in Spain. At a recent meeting of the Spanish Petroleum Monopoly it was voted to establish three large refineries, one at Barcelona and the other two at points as yet undetermined, although it is expected that they will be located at Seville and Santander.

SHELL INTERESTS IN FLINTKOTE

CHICAGO, Oct. 9.—Chester E. Rahr, president of the Flintkote Co., with main offices in New York, Chicago and Boston, announces that the Royal Dutch-Shell interests have invested between $8,000,000 and $9,000,000 in the company. In return for the investment the Shell interests acquire a large share of the common stock of the "Flintkote Co." The effect of this investment is to form a joint partnership in the roofing and asphalt business, the roofing company securing the right to use certain patents controlled by the Shell interests. President Rahr stated the new capital would be used for expansion in this country and abroad. A company is being organized in London under the style of the "Flintkote, Ltd." a subsidiary of the American company.

OHIO GASOLINE TAX

TOLEDO, Ohio, Oct. 7.—Ohio gasoline tax collections on the present 3 cents a gallon rate will total $31,876,679 during 1928, the state tax commission estimates. Most of the money will be spent on improving highways. The tax rate was increased to 3 cents from 2 cents a gallon on May 25, 1927, and total yield of the tax last year was $19,910,481, on 752,028,064 gallons. Registration of motor vehicles in Ohio totaled 1,592,722 in 1927.

During the first six months this year consumption of gasoline in the State was 38,000,000 gallons greater than in the corresponding 1927 period, when about 343,500,000 gallons were used.

RETAIL GASOLINE PRICES HIGHEST FOR MORE THAN A YEAR AND A HALF

The average gasoline tank wagon price over the country advanced about one-quarter cent during September, according to the average of the prices shown in The Oil and Gas Journal's 50 representative cities. On October 1 the average net tank wagon was 16.30 cents, the highest it has been since March 1, 1927. Comparing this year's price with that of last year the present is 1.68 cents higher but lacks 3.29 cents of equalling the price on October 1, 1926. Most of the increase came as the result of the new discount schedule put into effect on October 1 in the Standard Oil Co. of Indiana territory. In effect, the tank wagon price was advanced 1 cent through the elimination of the discount on dumps of less than 2,000 gallons and lowering the amount of discount on all quantities above that.

Outside of this change, there were very few. A reduction of 1 cent in the tank wagon and station prices throughout Pennsylvania and Delaware came as a surprise because of the higher prices previously posted on Pennsylvania crudes. It was evident the cause for the reduction was the increased importation of outside gasoline, notably California gasoline.

A slight revision downward is shown for the average tax paid. This is due to the discontinuation of the 3-cent tax in Texas and the replacement of it by a 2-cent tax. Thus far this year there have been very few tax changes. This is in decided contrast to the trend last year.

AVERAGE TANK WAGON PRICE IN 50 CITIES

(Exclusive of tax)

September 1, 1926	19.587
October 1	19.167
November 1	18.187
December 1	17.607
January 1, 1927	17.567
February 1	17.469
March 1	17.007
April 1	16.160
May 1	15.320
June 1	14.720
July 1	14.86
August 1	14.89
September 1	14.62
October 1	14.39
November 1	14.32
December 1	14.21
January 1, 1928	14.29
February 1	14.33
March 1	14.71
April 1	14.81
May 1	15.02
June 1	15.22
July 1	15.29
August 1	15.74
September 1	16.04
October 1	16.30

While it is known there are strong influences being exerted in certain states to further increase the tax, it is also

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DOPED GASOLINE WORTHLESS

ROME, Italy, Oct. 6.—A majority of the dopes which are being offered to the refiners and distributors of gasoline throughout the world are worthless according to Dr. Gustav Egloff who last week represented the American Chemical Society at the World Motor Transport Congress. In a paper presented at the conference Doctor Egloff said:

"In the United States large sums have been expended in an endeavor to commercialize dopes and a collection of more than 200 samples made in the open market has shown that many largely are the familiar 'moth balls' or naphthalene, colored and sold in fancy boxes with extravagant claims as to their utility."

MONTANA GASOLINE TAX

The use of the money collected from the sales of gasoline in the State of Montana for building better roads, caused an agitation in favor of an increase recently and this agitation is finding much favor over the State. The good roads already built with this money have caused the people to demand more of the same and the Kalispell Chamber of Commerce recently went on record favoring a 5-cent tax on all gasoline sold in the State except to farmers and ranchers, for purposes of building a great system of highways and completing same within a reasonable time.

CRUDE AS MOTOR FUEL

Under the supervision of the Royal Automobile Club of Great Britain tests are now being made of an invention designed to use crude oil as a motor fuel. The first test was made in a motor truck over a distance of 50 miles. The total load including truck and trailer was approximately 20 tons. An average speed of 8 miles an hour was maintained. It is claimed that the motor fuel costs will be approximately one-third of the cost with ordinary gasoline. The device being tested is a German invention.

UNION OIL HAS HEAVY MOVEMENT TO AUSTRALIA

Union Oil Co. of California has exported more than 15,000,000 gallons of gasoline to Australia and New Zealand within the past four months, including the recent sailing of the tanker Bohemian Club, carrying more than 3,000,000 gallons. Of the total sent in the past four months only a small part was case goods, 13,000,000 gallons being in bulk shipments.

With shipments of the past four months as a basis, it is estimated that the Union Oil Co. will ship to the antipodes an aggregate of 50,000,000 gallons of gasoline during the 12 months ending April of next year. There is even a possibility that this figure will be surpassed, Union Oil officials declaring that but for the shortage of bottoms, the present rate of delivery would be materially increased.

OPPOSE TAX ADVANCE

SHREVEPORT, La., Oct. 6. — The proposed amendment to the State constitution increasing the state tax on gasoline from 2 cents to 4 cents per gallon, 1 cent of which is to go toward funding a $30,000,000 hard-surfaced road construction and maintenance bond issue, is meeting with opposition. Various chambers of commerce and newspapers throughout the State have adopted resolutions and printed leading editorials against the proposal, and opposition to the measure is planning a state-wide organization to fight it prior to the election in November.

TIDE WATER ANNOUNCES PLAN TO AID EMPLOYES

NEW YORK, Oct. 6.—The Tide Water Oil Co. has offered to co-operate financially with employes desirous of undertaking special courses in subjects connected with their work. The company announcement states: "The Tide Water management has approved a policy whereby employes who take courses of instruction designed specifically to better equip them for their work, will be reimbursed to the extent of one-half of their tuition fees, by the company, upon satisfactory completion of such courses.

"An employe who desires to pursue such a course should discuss the matter with his foreman or department head and the supervisor of industrial relations. If they agree that such a course would better equip the employe for his job, and if it meets with the approval of the general superintendent, the course may be undertaken. Upon giving his foreman or department head evidence of a satisfactory completion of the course the employe will be reimbursed for one-half of his tuition fee.

"This policy applies to employes who take either institutional or correspondence courses."

STANDARD OF LOUISIANA TAX

SHREVEPORT, La., Oct. 6.—Standard Oil Co. of Louisiana, which paid the largest gasoline tax in Arkansas on record up to that time, $139,758 for July collections, established a new high figure when it turned into the state treasury $156,972 representing its collections of the 5-cent tax during August. Magnolia Petroleum Co.'s August collections amounted to $62,148.

The increase of approximately $17,000 in the Standard Oil's collections is indicative of the general increase in receipts from the gasoline tax which in turn is indicative of the increase in number of automobiles owned in the State, tourist traffic and construction of additional miles of gravel and hard surfaced roads throughout the State.

HEAVY OILS FOR ROADS

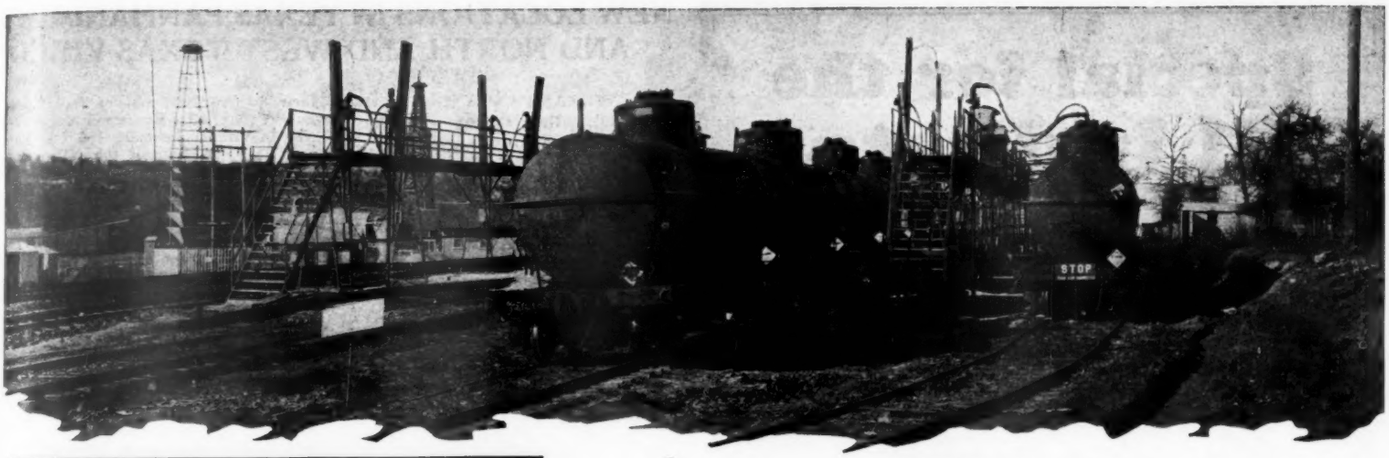
The use of heavy oils for highway construction is spreading rapidly over the country and the highways of the Rocky Mountain region are to see a large mileage of this class of roads completed this year. Through the sales of these heavy oils for this purpose, the oil industry will receive recompense from the highways where the gasoline taxes are expended. The oil companies are therefore looking upon the matter of an increase in the gasoline tax with equanimity.

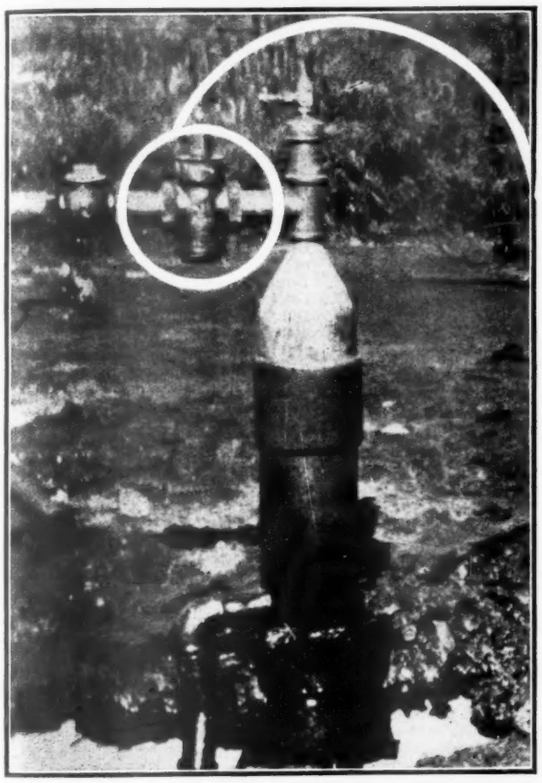
MUST BUY FRENCH ALCOHOL

NEW YORK, Oct. 6. — Under the terms of a new decree issued by the French government, French importers of gasoline and similar products during the year October 1, 1928, to September 30, 1929, are required to purchase from the French government alcohol to the extent of 10 per cent of the volume of the petroleum products declared for consumption. The decree also fixes prices for the year, delivery terms, and specifications.

ROXANA TANKER BUSY

CHICAGO, Oct. 8.—The new Roxana tank ship, the "Martha E. Allen," is now making regular trips between Chicago and River Rouge near Detroit and will continue on this route until the end of navigation because of the closing of the Straits of Mackinaw by ice which usually occurs about November 15.



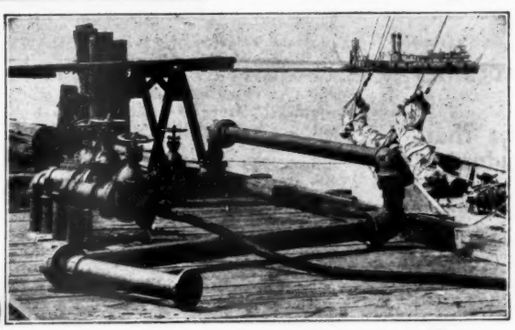


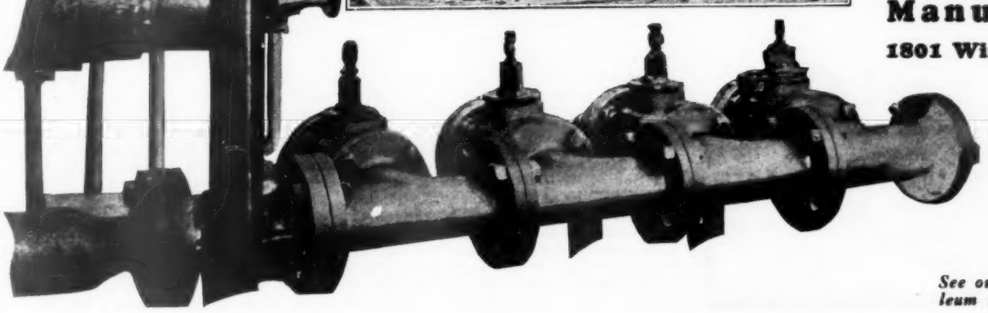
Wherever Valves or Flexible Joints are used

THERE is a Barco Plug Valve for any service you require. They handle high pressures and high temperatures that render most valves useless and on the less difficult jobs they outlast several ordinary valves.

Wherever flexibility is needed in a pipe line—to provide for adjustment, expansion, vibration and for any other purpose—Barco Flexible Joints are the logical choice. The ball and socket design allows free movement in any direction without leakage. Long trouble-free service is the rule. Gaskets can not blow out. Over 1,000,000 Barco Joints are in service.

Ask for the latest Barco bulletins on valves and joints.





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Strom Balls are held accurate to size to within, plus to minus, .00005 and sphericity to within .000025—*therefore all Strom Balls render a like service.* You can obtain Strom Balls through your regular supply jobber—if not, write us.

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NEW LOCATIONS IN TEXAS PANHANDLE AND NORTH AND WEST TEXAS FIELDS

TEXAS PANHANDLE

Gray County

The Texas Company's No. 3 H. M. Davis, 330 feet south and 990 feet west of the NE cor. of the NW of Section 86, Block 3, I.&G.N. Survey.

Hutchinson County

Phillips Petroleum Co.'s No. 1 J. M. Sanford-Garland, 330 feet north and east of the southwest corner of the north 40 acres of the east 80 acres of the south 160 acres of the south 320 acres of Section 77, Block 46, H.&T.C. Survey.

Moore County

Dixon Creek Oil Co.'s No. 1 J. T. Sneed, Jr.-A, 330 feet north and west of the SE cor. of the E half of the SE of Section 65, Block 3, G.&M. Survey. Same company's No. 4 J. T. Sneed, Jr.-A, 330 feet south and west of the NE cor. of the E half of the SE of Section 65, Block 3, G.&M. Survey. Skelly Oil Co.'s No. 4 Armstrong & Byrd, 1,600 feet south and 330 feet east of the northwest corner of the J. W. Proctor Survey.

NORTH CENTRAL AND WEST TEXAS

Archer County

Harrison & Tweet's No. 5 J. L. Jackson, 150 feet north and east of the SW cor. of the NE of Section 5, Denton County School Land, League 3, A-117. Shappell Oil Co.'s No. 1 J. H. Turbeville, 150 feet north and east of the southwest corner of the north 60 acres of the east 80 acres of Section 149, Robert Carson Survey. Burns & Long's No. 1 J. F. Cernosek, 1,148 feet south and 150 feet west of the NE cor. of the W half of Section 2,409, T.E.&L. Survey. Consolidated Oil Co.'s No. 2 W. F. Neimeyer, 450 feet north and 150 feet east of the southwest corner of the north 40 acres of the south 123.4 acres of the W. F. Neimeyer 160-acre tract out of Section 2,415, T.E.&L. Survey. C. W. Gilliland's No. 6 W. F. Neimeyer, 450 feet south and 150 feet east of the northwest corner of his 80-acre lease out of Section 2,415, T.E.&L. Survey. Madden & Hunt's No. 5 J. T. Richardson, 1,050 feet north and 150 feet east of the southwest corner of the west 125 acres of the south 250 acres of the north 450 acres of the J. T. Richardson 995-acre tract out of Section 1, South Anderson Ranch Subdivision. Same company's No. 6 J. T. Richardson, 750 feet north and 150 feet east of the southwest corner of the west 125 acres of the south 250 acres of the north 450 acres of the J. T. Richardson 995-acre tract out of Section 1, South Anderson Ranch Subdivision. W. H. Smith, Jr.'s No. 2 R. O. Prideaux, 450 feet north and 150 feet west of the southeast corner of the west 40 acres of the east 50 acres of the south 100 acres of Section 1,860, T.E.&L. Survey. The Texas Company's No. 6 W. O. Hayter, 450 feet north and 150 feet west of the southeast corner of their 120-acre lease out of Section 2,409, T.E.&L. Survey. The Texas Company's No. 18 J. T. Richardson, 150 feet north and west of the SE cor. of Section 7, South Anderson Ranch Subdivision. The Texas Company's No. 19 J. T. Richardson, 665 feet north and 150 feet west of the SE cor. of Section 7, South Anderson Ranch Subdivision.

Brown County

Amerada Petroleum Corp.'s No. 1 T. Edmondson, 703 feet south and 150 feet east of the northwest corner of the T. Townsend Survey, A-923. Gulf Production Co.'s No. 1 Dee Belvin and others, 150 feet north and 817 feet west of the southeast corner of the R. C. Chaddick Survey, A-1,202. Forrest Oil Co.'s No. 6 A. A. Moore, 950 feet south and 1,269 feet west of the northeast corner of the A. A. Moore tract out of the J. A. Belvin Survey, A-1,961. Gilman & McMurray's No. 19 A. B. Teston, 483 feet south and 150 feet west of the northeast corner of the A. B. Teston 136-acre lease out of the W. B. Smith Survey, No. 155. Humble Oil & Refining Co.'s No. 6 Hamp Byler, 552 feet south and 950 feet west of the northeast corner of their 80-acre lease out of the T.&N.O. Survey No. 43. Kingwood Oil Corp.'s No. 1 William Lehman, 150 feet south and 1,111 feet east of the NW cor. of Section 15, H.T.&B. Survey. Neiswanger and others' No. 1 W. C. Duff, 460 feet north and 150 feet east of the southwest corner of the east 30 acres of the south 50 acres of the W. C. Duff 99.6-acre tract out of the R. Honeycutt Survey No. 623, and the J. Kinney Survey No. 624. Young Brothers, Alexander and Woodley Petroleum Co.'s No. 5 J. S. Armstrong, 1,050 feet north and 150 feet east of the southwest corner of the J. S. Armstrong 231.5-acre tract out of the P. Curlong Survey No. 151. Amerada Petroleum Corp.'s No. 2 Lee Wise, 2,075 feet south and 150 feet west of the north corner of the P. E. Smith tract out of the Thomas Steel Survey No. 51, A-874, and located on the Lee Wise 385-acre tract out of the J. M. Clark Survey, A-1,473. Riordan and others' No. 1 W. N. Pugh, 150 feet north and west of the southeast corner of the north 40 acres of the W. N. Pugh 80-acre tract out of the C. B. Jennings Survey No. 353. E. L. Stephens' No. 1 W. T. Kirkpatrick, 150 feet north and east of the southwest corner of the east half of Lot 8, N. Hawkenberg, Survey No. 105.

Coleman County

D. Duncan and others' No. 1 G. M. Gray, 700 feet south and 300 feet east of the northwest corner of the Jarvis Dockrill Survey No. 180. Texas-National Oil Co.'s No. 2 J. E. and T. L. Stevens, 150 feet northeast of the railroad and 408 feet south of the north line of Lot No. 9, Coleman County School Land, No. 57. Bebout & Sullivan's No. 1 Tholl Oil Co., 250 feet south and west of the northeast corner of the south 30 acres of the east half of Lot 11, South Subdivision, M. Martinez Survey No. 751. Cunningham and others' No. 7 G. W. and L. P. Jennings-C, 491 feet south and 550 feet west of the northeast corner of their "C" lease out of the A. S. Lipscomb Survey No. 94. Derby Oil Co.'s No. 9 G. W. and L. P. Jennings, 584 feet north and 950 feet east of the southwest corner of its 50-acre lease out of the A. S. Lipscomb Survey No. 94. Dunningham & McReady's No. 2 Mary B. Rice, 1,050 feet north and 2,229 feet east of the southwest corner of the M. B. Rice tract out of the Bonds & Sanders Survey No. 91. The Texas Company's No. 1 The Texas Company-Hays, 200 feet south and 3,863 feet west of the northeast corner of the Bonds & Sanders Survey No. 93. Windsor and others' No. 1 J. A. McClatchey, 150 feet north and east of the southeast corner of the Bonds & Sanders Survey No. 89, and located in the McKinney & Williams Survey No. 90.

Cooke County

Kewanee Oil & Gas Co.'s No. 22 J. A. Dennis, 2,250 feet north and 150 feet east of the southwest corner of their 160-acre lease out of the T. J. Moss Survey, A-736.

Crane County

Texas Pacific Coal & Oil Co.'s No. 2 University Land, 2,310 feet north and 1,650 feet east of the SW cor. of Section 34, Block 30, University Land.

Crockett County

Zoch and others' No. 1 J. H. Tippett, 330 feet northeast of the middle of the northeast line of Section 45, Block 31, H.&T.C. Survey, and located in Block J-H, Section 1.

Eastland County

Arkansas Fuel Co.'s No. 6 J. Lyerla, 575 feet north and 150 feet east of the southwest corner of the J. Lyerla 352.75-acre tract out of the N. Ussury Survey. W. Harbin's No. 2 S. N. Coon, 450 feet north and 710 feet east of the SW cor. of the S half of the S half of the SW of Section 27, Block 2, H.&T.C. Survey. Hoffman & Page's No. 2 C. T. Webb, 160 feet south and east of the NW cor. of the NW cor. of Section 26, Block 2, H.&T.C. Survey. N. A. Moore and others' No. 2 E. S. Pritchard, 200 feet south and east of the NW cor. of the E half of the NE of Section 10, Block 2,

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W.K.W. - rips thru the earth

Ripping and tearing its way thru hard and soft formations the W-K-W is a dual service bit. It *progressively* digs into the formation. Each tooth is set at a different elevation and more actual cutting surface is offered than by any other type of rotary bit. The teeth and reaming blades are faced with Titan, the hardest metal known.

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Why

Fact 10

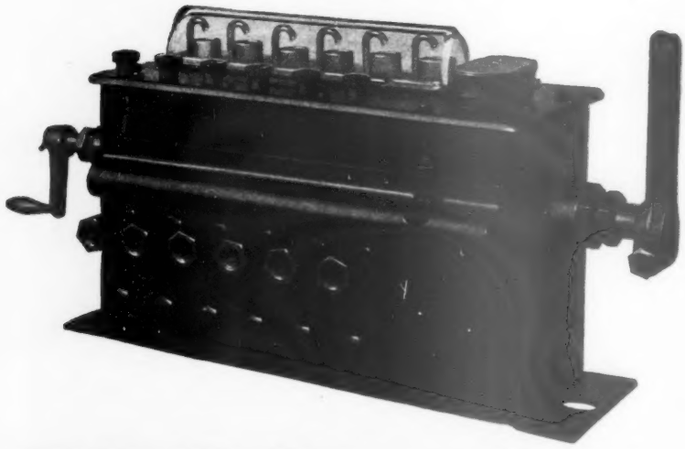
Positive and Accurate Oil Feed Adjustment

The positive adjusting mechanism of the Madison-Kipp Lubricator permits ample lubrication without over lubrication and permits an economical consumption of lubricating oil. A turn of the adjusting spindle increases or decreases the length of time that the ports in the metering sleeve register with the pumping plunger. Just the desired quantity of oil, no more, no less, is pumped through the registering ports.

The individual adjustment for each pumping unit makes possible the lubrication of cylinders and bearings by the same lubricator regardless of the quantity of oil desired.

Lubrication data, lubrication service and co-operative experimental work in lubrication is always available to engineers and manufacturers.

The Madison-Kipp Lubricator is easily applied in the field on Oil, Gas, and Steam Drilling Engines, Oil and Gas Pumping Engines, Steam Pumps, Slush Pumps and Stationary Power



FRESH OIL

Madison-Kipp Lubricators

Lubrication Specialists Exclusively — Madison, Wisconsin

H.&T.C. Survey. States Oil Corp.'s No. 1 J. S. Jackson, 1,460 feet south and 250 feet west of the NE cor. of the NE of Section 34, Block 2, H.&T.C. Survey.

Howard County

Midwest Exploration Co.'s No. 2 H. R. Clay-A, 250 feet south and 1,070 feet east of the NW cor. of Section 139, Block 29, W.&N.W. Survey.

Irion County

Sun Oil Co.'s No. 1 W. H. Williams, 232 feet north and 1,192 feet east of the SW cor. of Section 39, Block 21, H.&T. C. Survey.

Jack County

Prairie Oil & Gas Co.'s No. 1 M. A. Bryson, 330 feet north and west of the southeast corner of the west 120 acres of the M. A. Bryson 273-acre tract out of the Isaac Hughson Survey, A-256.

Jones County

Robert Oil Corp.'s No. 2 A. T. Smith, 330 feet north and 2,350 feet east of the SW cor. of Section 51, Block 18, T.&P. Survey, being 330 feet north and east of the southwest corner of their 40-acre lease. Robert Oil Corp.'s No. 3 A. T. Smith, 330 feet north and 3,050 feet east of the SW cor. of Section 51, Block 18, T.&P. Survey, being 330 feet north and west of the southeast corner of their 40-acre lease. Sinclair Oil & Gas Co.'s No. 2 C. A. Bickley, 970 feet south and 319 feet east of the NW cor. of the N half of the NE of Section 50, Block 18, T.&P. Survey. The Texas Company's No. 1 W. E. Camp, 330 feet north and 288 feet east of the southwest corner of the W. E. Camp 194.5-acre tract out of Section 13, Block 19, T.&P. Survey. Woods & Williams' No. 1 M. A. Parr, 500 feet south and east of the northwest corner of the M. A. Parr 134-acre tract out of the G. A. Kirkland Survey, A-507.

Montague County

Continental Oil Co.'s No. 2 W. W. Jones-A, 850 feet north and 550 feet west of the southeast corner of the north 100 acres of Lot 3, J. W. Jones Subdivision, William Donoho Survey, A-178. Pure Oil Co.'s No. 7 L. Keck-A, 2,710 feet north and 200 feet east of the most westerly southwest corner of their "A" lease out of Lot 5, J. W. Jones Subdivision, William Donoho Survey, A-178.

Palo Pinto County

Gordon & Gholson's No. 2 C. V. McDonald, 640 feet south and 660 feet east of the NW cor. of Section 38, Block 1, T.&P. Survey. Craig & Strong's No. 1 Mrs. B. N. Long, 150 feet southwest of the northeast line and 450 feet southeast of the northwest line of the Mrs. B. N. Long 72-acre tract out of the R. R. Williams Survey.

Pecos County

Gulf Production Co.'s No. 22 I. G. Yates, 5,610 feet north and 1,556 feet east of the southwest corner of Runnels County School Land, A-2,169. Gulf Production Co.'s No. 23 I. G. Yates, 4,950 feet north and 4,210 feet east of the southwest corner of Runnels County School Land, A-2,169. Humble Oil & Refining Co.'s No. 10 M. A. Smith, 2,066 feet south and 2,750 feet east of the NW cor. of Section 36, Block 194, G.C.&S.F. Survey. Mid-Kansas Oil & Gas Co.'s No. 6 I. G. Yates-D, 821 feet north and 8,253 feet east of the SW cor. of Section 62, Block 1, I.&G.N. Survey. Rio Pecos Oil Co.'s No. 1 I. G. Yates, 330 feet south and east of the NW cor. of Section 543, H.&G.N. Survey. Zoch and others' No. 1 Union Land Co., C of Section 35, Block 12, H.&G.N. Survey.

Schleicher County

J. T. Parks and others' No. 1 Louis Tisdale, 150 feet south and east of the northwest corner of the south 120 acres of the Wilhelm Halm 320-acre, Survey No. 1,499.

Shackelford County

J. D. Collett and others' No. 1 W. P. Newell, 150 feet south and east of the NW cor of the E half of the SE of Section 114, Block 10, E.T.R.R. Survey. Roeser & Pendleton's No. 79 W. I. Cook-A, Section 60, 416 feet south and 150 feet east of the NW cor. of the SE of Section 60, Block 10, E.T.R.R. Survey. Same company's No. 80 W. I. Cook-A, Section 60, 1,886 feet south and 1,650 feet west of the NE cor. of the SE of Section 60, Block 10, E.T.R.R. Survey. Roeser & Pendleton's No. 35 W. I. Cook-C, Section 60, 1,445 feet south and 1,714 feet east of the NW cor. of the NE of Section 60, Block 10, E.T.R.R. Survey. Same company's No. 36 W. I. Cook-C, Section 60, 1,025 feet south and 566 feet west of the NE cor. of the NE of Section 60, Block 10, E.T.R.R. Survey. Same company's No. 37 W. I. Cook-C, Section 60, 1,448 feet south and 1,332 feet east of the NW cor. of the NE of Section 60, Block 10, E.T.R.R. Survey. Same company's No. 38 W. I. Cook-C, Section 60, 1,866 feet south and 541 feet east of the NW cor. of the NE of Section 60, Block 10, E.T.R.R. Survey. Same company's No. 16 W. I. Cook-A, Section 61, 285 feet north and 670 feet west of the SE cor. of the SW of Section 61, Block 10, E.T.R.R. Survey. Same company's No. 1 W. I. Cook-A, Section 83, 416 feet south and 220 feet west of the NE cor. of the SE of Section 83, Block 10, E.T.R.R. Survey. Same company's No. 1 W. I. Cook-A, Section 140, 150 feet south and 830 feet east of the NW cor. of the SW of Section 140, Block 10, E.T.R.R. Survey. J. B. Tannehill and others' No. 6 J. B. Matthews, Section 33, 250 feet south and 450 feet west of the NE cor. of Section 33, Block 10, E. T.R.R. Survey. Texas Fidelity Oil Co. and Owens' No. 1 J. M. Alexander, 660 feet north and 1,320 feet east of the SW cor. of the NE of Section 42, Block 13, T.&P. Survey. Wichita Production Co.'s No. 4 E. Myer, 475 feet south and 3,554 feet west of the NE cor. of Section 1, G.H.&H. Survey.

Stephens County

Pace & Ward's No. 2 I. A. Sloan, 500 feet north and 300 feet west of the southeast corner of Lot 16, J. Yeaman Survey. Glenridge Oil Corp.'s No. 1 G. W. Keathley, 700 feet south and 900 feet east of the NW cor. of Section 24, Block 5, T.&P. Survey. Lacey & Swenson and others' No. 1 J. B. Harrington and others, 956 feet north and 180 feet east of the SW cor. of the NW of Section 19, Block 6, T.&P. Survey. States Oil Corp.'s No. 1 M. C. Hall, 800 feet north and 600 feet east of the SW cor. of the N half of Section 11, Block 7, T.&P. Survey. Texas Fidelity Oil Corp.'s No. 1 E. H. Adams, 150 feet north and east of the SW cor. of the NW of the SW of Section 53, Block 6, T.&P. Survey.

Throckmorton County

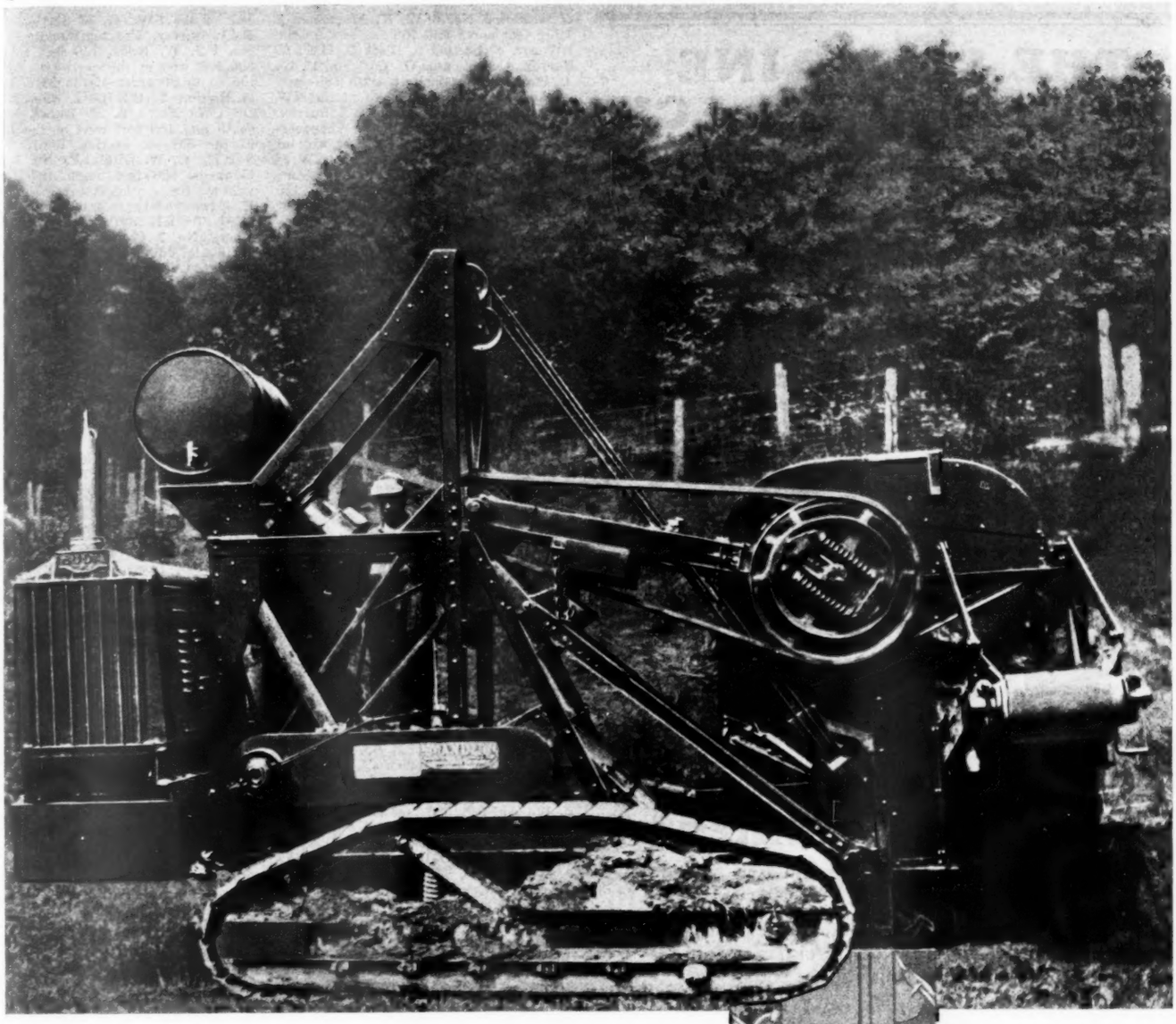
Credicoat & Baker's No. 1 C. L. Downing, 330 feet north and 300 feet east of the southwest corner of the west 40 acres of the S half of Section 913, T.E.&L. Survey. F. W. Holder's No. 1 B. S. Walker, 1,716 feet north and 1,083 feet west of the southeast corner of the Jessie McCoy Survey, A-233. Humble Oil & Refining Co.'s No. 1 James Latham, 1,566 feet north and east of the SW cor. of the S half of Section 986, T.E.&L. Survey. Same company's No. 1 A. L. Whitaker, 1,566 feet north and west of the SE cor. of the S half of Section 956, T.E.&L. Survey. E. J. McCurdy and others' No. 3 Reynolds Cattle Co., 610 feet south and 1,580 feet west of the NE cor. of the SE of Section 19, Block 2, A.B.&M. Survey.

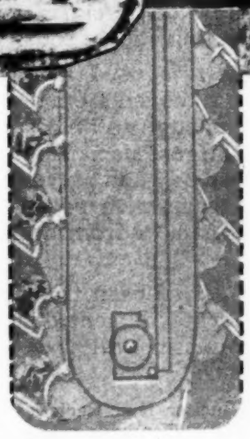
Wichita County

Hammon and others' No. 9 S. H. McCarty, 750 feet south and 150 feet east of the northwest corner of the west 20 acres of the north 117 acres of the W. R. Eaves Survey, A-447. Hines and Humble Oil & Refining Co.'s No. 7 J. L. and T. J. Waggoner, 842 feet south and 1,430 feet east of the NW cor. of Section 2, G.C.&S.F. Survey, A-772. Magnolia Petroleum Co.'s No. 2 Allen & Kemp, Block 28, 150 feet south and 242 feet west of the northeast corner of Block 28, Kemp Wichita Valley Land. Same company's No. 4 J. R. Pace, 150 feet south and 750 feet east of the northwest corner of their lease out of the J. R. Scott Survey, A-255. Panhandle Refining Co. and others' No. 1 H. W. Barton, 3,791 feet north and 150 feet west of the southwest corner of the W. H. Spillers Survey, A-258, and located in the F. Peterswick Survey No. 1, A-244.

Wilbarger County

J. B. Baker and others' No. 5 W. T. Waggoner-B, 660 feet south and 3,810 feet west of the NW cor. of Section 5, Block 5, H.&T.C. Survey, and located in the Thomas D. Purnell Survey. Barkley





THESE two lines show how the Barber-Greene Vertical Boom goes straight down. Its digging teeth work against the uncut face with a milling action—not a shoveling action. Result: the Barber-Greene goes through the shale, blue clay, frost, coral rock, and roots that stop ordinary ditchers. In addition, the Vertical Boom maneuvers more quickly and cleanly. It leaves no ramp for picks and shovels when raised or lowered; and in tough digging, the Overload Release protects the Barber-Greene from the shocks of whatever the Vertical Boom may meet underground. These features no other ditcher has. Check these points in "Ditching Snapshots and Records." Copy on request.

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These Two Lines New Profits

Barber-Greene Company, 600 West Park Ave., Aurora, Illinois

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Four to Seven Feet Maximum Depths
Standard Widths: Eighteen to Twenty-four Inches
Also, Conduit and Curb and Gutter Specials

THE LORRAINE SUCKER ROD RACK

Holds the rods straight, without kink or bend. Rods and workmen are protected against injury. A permanent installation that is more economical than portable outfits.

Saves time—saves rods—saves money

A Big Improvement in Rod Racks—

The worm drive hoist, an integral part of the Lorraine Sucker Rod Rack, is a long step forward in handling sucker rods.

This individual hoist is used to hold a stand of rods when removed from the elevator. It is strong enough to hold a stand of three rods of the largest size. The worm gear holds the load steady and prevents the handle from flying back with possible injury to the derrick man, or from dropping the rods.

As soon as the rods have been transferred to the hoist, the elevator is sent down for another stand, eliminating all waste motion and loss of time.

The Lorraine Sucker Rod Rack is Strong, Safe and Dependable. Descriptive folder sent on request.

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& Meadows' No. 6 W. T. Waggoner-C, 1,116 feet north and 706 feet east of the SW cor. of Section 5, Block 5, H.&T.C. Survey. Consolidated Oil Co.'s No. 13 W. T. Waggoner-A, 490 feet south and west of the NE cor. of the S half of the NW of Section 5, Block 5, H.&T.C. Survey. Same company's No. 14 W. T. Waggoner-A, 750 feet south and 1,115 feet west of the NE cor. of the S half of the NW of Section 5, Block 5, H.&T.C. Survey. Same company's No. 3 W. T. Waggoner-C, 150 feet north and east of the SW cor. of the NE of the NE of Section 5, Block 5, H.&T.C. Survey. Fain-McGaha Oil Corp.'s No. 15 W. T. Waggoner-S, 450 feet north and 150 feet east of the SW cor. of the NW of the NE of Section 24, Block 4, H.&T.C. Survey. Same corporation's No. 16 W. T. Waggoner-S, 150 feet south and east of the NW cor. of the SW of the NE of Section 24, Block 4, H.&T.C. Survey. Hamilton & Martin's No. 6 W. T. Waggoner-A, 450 feet south and 150 feet west of the NE cor. of the W half of the SW of the NE of Section 5, Block 5, H.&T.C. Survey. Harry Hines and others' No. 1 G. B. Ancell, 150 feet south and east of the NW cor. of the NE of Section 34, Block 6, H.&T. C. Survey. W. A. Patterson and others' No. 1 R. P. Burgis, 300 feet north and 450 feet east of the SW cor. of the NE of Section 54, Block 4, H.&T.C. Survey. Phillips Petroleum Co.'s No. 3 W. T. Waggoner-II, 330 feet south and 467 et west of the NE cor. of the NE of the SW of Section 45, Block 4, H.&T.C. Survey. Same company's No. 20 W. T. Waggoner-NN, 220 feet north and 1,284 feet west of the southeast corner of their 'N N" lease out of Section 42, Block 4, H. &T.C. Survey. Simms Petroleum Co.'s No. 6 W. T. Waggoner, 150 feet north and 490 feet west of the SE cor. of the NW of the NE of Section 5, Block 5, H.&T.C. Survey. Prairie Oil & Gas Co.'s No. 7 W. T. Waggoner-B, 467 feet south and 2,045 feet west of the NE cor. of the SW of Section 43, Block 4, H.&T.C. Survey. Staley-Wynne & Co.'s No. 3 W. T. Waggoner-F, 580 feet north and 280 feet west of the SE cor. of the SE of the SE of Section 32, Block 4, H.&T.C. Survey. Tower & McKanna's No. 3 W. T. Waggoner-B, 715 feet north and 220 feet west of the SE cor. of the NW of the SW of Section 32, Block 4, H.&T.C. Survey.

Winkler County

Amerada Petroleum Corp.'s No. 1 Lum Daugherty, 2,310 feet north and west of the SE cor. of Section 3, Block 74, School Land. Atlantic Oil Producing Co. and others' No. 2 Lum Daugherty, 2,310 feet north and east of the SW cor. of Section 3, Block 74, School Land. T. B. Cranfill and others' No. 1 E. G. Hutchings, 2,310 feet north and 330 feet east of the SW cor. of Section 47, Block 26, School Land. Gulf Production Co.'s No. 2 G. W. O'Brien and others, 330 feet south and east of the NW cor. of Section 31, Block F, G.&M.M.B.&A. Survey. Marland Production Co.'s No. 2 T. G. Hendricks-A, 990 feet north and 330 feet west of the SE cor. of Section 29, Block 26, School Land. Southern Crude Oil Purchasing Co.'s No. 4 T. G. Hendricks, T-67-2-D, 990 feet north and 330 feet east of the SW cor. of Section 28, Block 26, School Land. Same company's No. 2 Ida Hendricks, T-88-L, 2,310 feet south and 330 feet west of the NE cor. of Section 4, Block B-12, School Land. Same company's No. 25 T. G. Hendricks, T-88-M, 2,310 feet north and 330 feet west of the SE cor. of Section 33, Block 26, School Land. Same company's No. 1 T. G. Hendricks, T-88-V, 1,650 feet north and 330 feet west of the SE cor. of Section 29, Block 26, School Land. Same company's No. 2 Grisham-Hunter-T-89-H, 2,310 feet north and 330 feet west of the SE cor. of Section 46, Block 26, School Land.

Young County

R. C. Albright's No. 1 L. H. Green, 150 feet south and west of the northeast corner of the east 40 acres of the north 100 acres of Section 1,496, T.E.&L. Survey. Albright & Kermow's No. 1 V. Swain, 1,032 feet north and 150 feet west of the SE cor. of Section 1,465, T.E.&L. Survey. Cooper & Britton's No. 2 L. Parrish, 150 feet north and 450 feet east of the SW cor. of Section 409, T. E.&L. Survey. Croxton-Bucklin Oil Co.'s No. 1 J. W. Knox, 150 feet south and 300 feet east of the northwest corner of the south 80 acres of the SE (A-1,721) of Section 2, B.B.B.&C. Survey. Four Oil Co.'s No. 1 S. B. Bryan, 450 feet south and 150 feet west of the NE cor. of the SW of Section 1,367, T.E.&L. Survey. C. W. Gilliland's No. 1 W. E. Edwards, 850 feet north and 150 feet west of the southeast corner of the W. E. Edwards 80-acre tract out of Section 3,401, T.E.&L. Survey. J. F. Hall and others' No. 1 C. W. Johnson, 150 feet north and 450 feet west of the SE cor. of Lot 11, Edward W. Sergeant Survey, A-253. F. W. Kennedy and others' No. 1 C. W. Johnson, 150 feet north and 450 feet west of the southeast corner of Lot 7, Edward W. Sergeant Survey, A-253. C. Kleiner and others' No. 4 J. H. Davis, 450 feet south and 1,193 feet west of the NE cor. of the S half of Section 1,487, T.E.&L. Survey.

C. Kleiner and others' No. 21 C. W. Langston, 150 feet north and 1,567 feet east of the SW cor. of Section 1,490, T. E.&L. Survey. C. Kleiner and others' No. 2 C. W. Langston, 750 feet south and west of NE cor. of south half of Section 1,490, T.E.&L. Survey. Magnolia Petroleum Co.'s No. 2 C. W. Johnson, 150 feet north and 1,050 feet east of SW cor. of Lot 13, Edward W. Sergeant Survey, A-253. Mook-Texas Oil Co.'s No. 8 J. H. Davis, 893 feet south and 450 feet west of NE cor. of the south half of Section 1,487, T.E.&L. Survey.

Pennell Oil Co.'s No. 6 C. W. Johnson-C, 750 feet north and 450 feet east of SW cor. of the west 50 acres of east 75 acres of north 146 acres of south 346 acres of the C. W. Johnson 1,026-acre tract out of the Edward W. Sergeant Survey, A-253. Same company's No. 1 C. W. Johnson-F, 450 feet south and 150 feet east of NW cor. of east 25 acres of north 145 acres of south 346 acres of the C. W. Johnson 1,026-acre tract out of the Edward W. Sergeant Survey, A-253.

W. H. Pettitt's No. 1 V. Swain, 450 feet south and 750 feet east of NW cor. of east 140 acres of south 241 acres of Section 1,465, T.E.&L. Survey. Reed & Wootten and others' No. 1 W. R. Drum, 150 feet east of NE cor. of A. Wood Survey, A-1,274, and located in the J. R. Cooke Survey, A-1,405. E. R. Riggs and others' No. 15 J. B. McKinley, 150 feet south and 1,222 feet east of NW cor. of Section 1,489, T.E.&L. Survey. E. R. Riggs and others' No. 16 J. B. McKinley, 150 feet south and 300 feet east of NW cor. of Section 1,489, T.E.&L. Survey. W. R. Stafford and others' No. 1 W. C. Leberman, 150 feet south and west of NE cor. of Section 270, T.E.&L. Survey. Stivers & Streeter's No. 1 W. D. Dent and others, 915 feet south and 150 feet east of the most westerly NW cor. of Section 757, T.E.&L. Survey.

Tidal Oil Co.'s No. 3 D. Garrett, 150 feet north and 450 feet west of SE cor. of the west 100 acres of north half of Section 1,487, T.E.&L. Survey. Underwood Drilling Co.'s No. 1 R. Campbell, 850 feet north and 1,400 feet east of SW cor. of Section 1,390, T.E.&L. Survey. E. W. Walton and others' No. 1 W. D. Weems, 1,030 feet south and 150 feet west of NE cor. of Section 1,911, T.E.&L. Survey. D. L. Wolfe and others' No. 5 J. T. Lowe, 450 feet south and west of NE cor. of NW of Section 59, T.E.&L. Survey. E. C. Stovall's No. 11 E. C. Stovall, 100 feet north and 500 feet west of the most southerly SE cor. of Lot 2, Stovall Subdivision, James Tobin Survey, A-279.

Corrected Locations

Coleman County—Henshaw Oil Corp.'s No. 1 William Anson, 2,490 feet north and 300 feet east of SW cor. of Section 16, Block 1, G.H.&H. Survey.

Gray County—Pure Oil Co.'s No. 8 H. M. Davis, 330 feet north and east of SW cor. of NE of Section 86, Block 3, I.&G. N. Survey.

Jones County—Cranfill-Reynolds & Dilworth's No. 1 C. A. Bickley, 460 feet north and 200 feet east of SW cor. of Section 50, Block 18, T.&P. Survey.

Throckmorton County — Erin Production Co.'s No. 1 S. R. Davis, 804 feet south and 254 feet west of SE cor. of

48,962 feet 30 months 1280 days

drilled with a 12" —8 ply O & G Belt.

continuous drilling service—one well over 7,000 feet—16"—8 ply O & G Belt.

straight time pumping—3,900 foot fluid level—beam well—14"—7 ply O & G Belt.

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The engineer knows that Jenkins in a pipe line is a valve that he can forget about—a trustworthy valve that has many years of usefulness.

Jenkins Valves win and hold the respect of the man close to their operation, as well as the purchasing agent who figures ultimate valve cost on the basis of long-term economy. There is a reason for this: Jenkins are made for the maximum service, not merely the average.

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Jenkins Valves are furnished in bronze and iron—in standard, medium and extra heavy patterns . . . . at supply houses everywhere.

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JENKINS BROS., Limited, Montreal, Canada; London, England

Below, Valve Division, Bridgeport, Conn.

Fig. 108 Jenkins Standard Bronze Angle Valve, Screwed

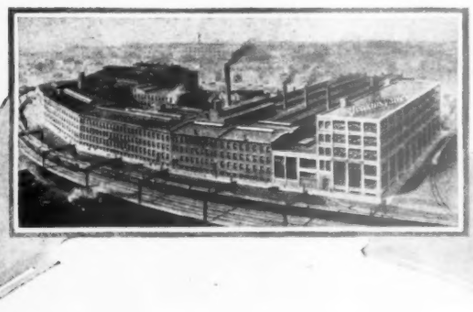

Fig. 325 Jenkins Standard Iron Body Gate Valve, Screwed

Always marked with the "Diamond"
Jenkins Valves
SINCE 1864

G. G. Alford Survey, A-2, and located in the Bradley Garner Survey, A-202. E. J. McCurdy and others' No. 2 Reynolds Cattle Co., 610 feet south and 2,790 feet west of NE cor. of north half of SE of Section 19, Block 2, A.B.&M. Survey.

Winkler County—Southern Crude Oil Purchasing Co.'s No. 2 T. G. Hendrick, T-88-M, 2,200 feet south and 330 feet west of NE cor. of Section 33, Block 26, School Land.

Young County—E. R. Riggs and others' No. 14 J. B. McKinley, 150 feet south and 1,522 feet east of NW cor. of Section 1,489, T.E.&L. Survey.

GOVERNMENT GASOLINE SPECIFICATIONS, TESTS

(Continued from Page 171)

ity of the heavy fraction of most motor fuels. If it is true, as has been contended, that the volatility of the last few per cent of a gasoline has a comparatively insignificant effect on the vaporizing property of the gasoline as a whole, then the retention of a definite endpoint requirement is unnecessary. Also, some attention has been given by one or more investigators to the problem of specifying the distillation range of a fuel by eliminating the initial boiling point and using the temperature of some point near the beginning of the distillation, such as the 5 per cent or 10 per cent point, as the criterion of initial volatility. Such an arrangement would present both advantages and disadvantages. Practical determination as to whether or not this revised plan of specifications is more advantageous than the specification used at present must come as a result of extensive investigation, and a discussion of its merits and demerits is beyond the scope of this paper.

Estimating Volatility

Within the last few years two or three new methods have been devised for estimating the volatility of gasoline. It has long been contended that the "Engler distillation method" gives no very definite idea of how a motor fuel will volatilize in a carburetor. Gasoline is not vaporized in a carburetor by distillation. Rather there is a continuous changing of small portions of the fuel from the liquid to the gaseous state, and the portions so changed are identical in composition and volatility with the fuel as a whole. The contention is, therefore, that the distilling temperatures of the successive series of hydrocarbons forming the fuel as determined by the Engler method is not the information needed to judge volatility properly. In one method, determination is made of the lowest temperature at which the entire sample of gasoline will vaporize. Another proposed method utilizes a continuous distillation apparatus by which the relative volatility of gasoline may be estimated by determining the percentage volatilized at a predetermined temperature.

These methods have features which recommend them for further study. However, up to the present time no method has been developed and standardized to the point where adoption as a general test method seems warranted.

Recently several opinions have been expressed holding that the allowable maximum of 0.10 per cent sulphur is too stringent and should be increased, particularly in gasoline intended for summer use. Investigators have studied the matter of corrosion as influenced by the temperature of the crankcase. As a result of this work, the investigators have concluded that a higher percentage of sulphur could be tolerated without serious injury to the motor particularly during warm weather when condensation of aqueous vapor in the crankcase is at a minimum. However, evidence is not sufficiently conclusive to show that no general harm would result from raising the maximum sulphur restriction in gasoline used in summer. Before such a change can be justified, many factors must be weighed, and more extensive and conclusive experimental data must be obtained.

The main reason that the test for corrosion has been subject to criticism is chiefly due to the lack of a definite measure of the corrosive property of a fuel. A considerable amount of attention has been given to this problem both by the committee and by the refining and automotive industries. No doubt a satisfactory test to replace the present one will be devised in the near future. Under the present method no trouble is experienced in properly classifying fuels which are either plainly noncorrosive or decidedly corrosive, but the test is uncertain for a gasoline which produces only a slight color on the copper strip.

Meaning of Specifications

The first motor gasoline specification contained only the distillation range and the general statement of requirements. As the problem was studied further, other requirements were inserted until the standards have been developed to their present form. It has always been the intent of the committees charged with the preparation of federal specifications to include no requirement unless an obvious need for it existed. Changes have been made only when it appeared certain that those changes were a direct improvement over existing specifications. It has been recognized that each requirement should regulate a certain property on which the quality of the fuel depends; and that at the same time specification should be included which does not effect an improvement in the fuel commensurate with the extra cost and effort required to meet the specification.

Distillation Range

The requirement of basic importance in a specification for gasoline is the distillation range. The range for U. S. Motor gasoline, as shown in Table 2, is as follows: First drop (initial boiling point) 131 degrees Fahrenheit; 20 per cent over, 221 degrees Fahrenheit; 50 per cent over, 284 degrees Fahrenheit; 90 per cent over, 392 degrees Fahrenheit; endpoint, 437 degrees Fahrenheit; minimum recovery 95 per cent. This indicates that when distillation is begun in the standard apparatus, the vapor temperature in the neck of the flask, at the instant the first drop of distillate falls into the receiving graduate, must not be higher than 131 degrees Fahrenheit; when 20 per cent of the original sample (100 cc.) has been collected in the receiver, the vapor temperature must not be higher than 221 degrees Fahrenheit; 50 per cent distilled, temperature not higher than 284 degrees Fahrenheit; 90 per cent distilled when temperature is not shown above 392 degrees Fahrenheit; and distillation should have ceased at or below 437 degrees Fahrenheit.

The provision of a 95 per cent minimum recovery is for the purpose of guarding against the inclusion of too large a proportion of very volatile hydrocarbons in the fuel. A gasoline of this nature would cause too great a loss of volatile constituents in storage or while being carried in the fuel tanks of automobiles. The presence of excessively high volatile material or "light ends" is very likely to induce other troubles in motor operation; especially "gas lock." "Gas lock" is a condition where very volatile constituents in a motor fuel vaporize in lead lines or carburetor bowl and interrupt the continuous supply of liquid fuel to the engine manifold.

The corrosive action of sulphur in motor fuels has been discussed. Because the dilute acid solutions formed after combustion are very corrosive, it is imperative that the sulphur content be restricted below a point where serious corrosion will occur.

Required Tests

In the preparation or the revision of a gasoline specification, consideration should be given to two major factors. One of these is the quantity and the properties of the available supply of crude petroleum from which gasoline may be obtained; the other is the conditions under which the fuel must function in service. Other factors may be considered as corollaries of one or the other of these two. Consequently, a properly balanced specification must not impose restrictions that are too difficult or too

Any Cable Tool Operator can get Good Cores with Baker Cable Tool Core Barrels

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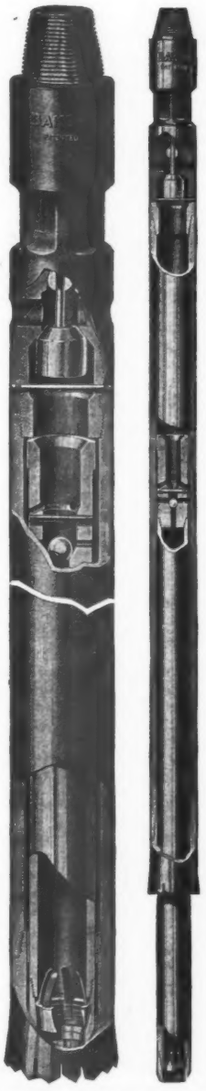

Baker Cable Tool Core Barrel, showing relative positions of drill barrel and core trimmer shoe at end of drilling stroke, (left); and (right) at beginning of stroke.

Now, Mr. Operator, consider the economy of that. The Baker Standard Core Barrel is in every way a practical, dependable tool. It has been used with entirely satisfactory results in practically every oil field in the world where the standard rig is employed. Among the enthusiastic boosters for it are both large and small operators.

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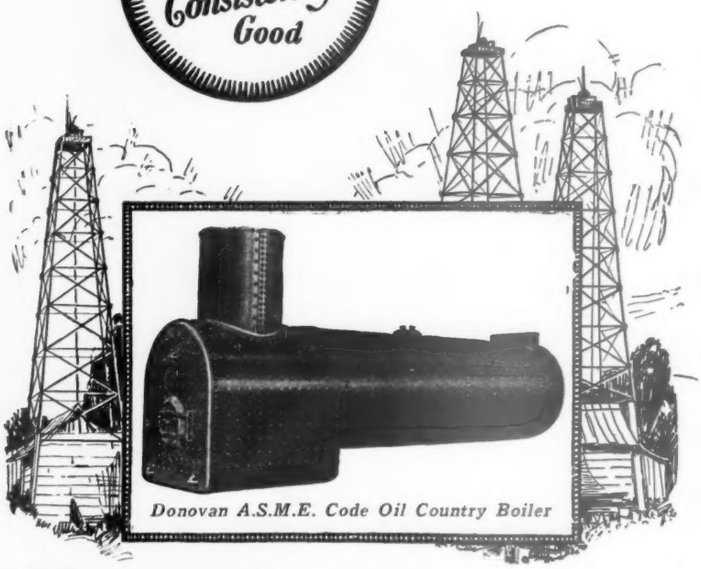
Donovan Boilers are Consistently Good



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All Leading Supply Houses Throughout the Eastern Fields Handle
DONOVAN QUALITY PRODUCTS
NONE BETTER

expensive to meet. The fuel must, however, possess these physical and chemical properties which will give the best results in the machine in which it is used. With the present available supply of crude oil, the writing of specifications for gasoline depends less on the quantity and properties of the raw material than on the condition under which the finished product will be used.

Primarily, a motor fuel must be sufficiently volatile to vaporize properly in the carburetor in which it is used. Carburetors of widely different designs are in common use, and conditions of engine operation vary considerably in different localities. A fuel which is to be used under widely varying conditions must give satisfaction under the worst existing conditions and should be specified to suit the most difficult rather than the easiest conditions likely to be met in its use. Warm weather and optimum operating conditions require a less volatile fuel than winter temperatures and poor equipment. Recognition of this fact by refiners is indicated by the semiannual gasoline surveys. Average distillation temperatures of summer gasolines are correspondingly higher than those of samples collected in winter. Up to the present time federal purchases of gasoline have been made for both summer and winter use on the same specification.

Noncorrosive Requirement

Noncorrosiveness is also an important consideration in a good gasoline. The presence of corrosive substances in a fuel destroys tanks, lead lines, and carburetor floats. Corrosion is usually the result of excessive sulphur or sulphur compounds in the fuel, although this is not necessarily an invariable rule. In treating crude gasoline with so-called "doctor" solution, flowers of sulphur is usually added to make the treat "break"; injudicious addition of sulphur in too great a quantity will leave free sulphur dissolved in the gasoline. This dissolved sulphur is very corrosive to metals in contact with the fuel and is probably the most frequent cause of corrosion. There is also the corrosive condition brought about by acid solutions in the crankcase after combustion takes place in the cylinders. Consequently any specification should contain a provision limiting the corrosive property of a fuel.

The details of a specification should be decided upon only as the result of careful and exhaustive experiment and experience. "Trick" specifications, and those based on "common knowledge," particularly are to be avoided. As noted earlier in this paper, no provision should be included in a specification unless it is definitely known that "value received" may be obtained by including it. The sort of information often referred to as "common knowledge" is seldom correct and never exact. Many erroneous impressions received credence among nontechnical users of petroleum products, and specifications should be established only on definite and accurate knowledge.

Special attention should be paid to definiteness in specifications and to the details of methods of testing. A large part of the work of developing federal specification to their present form has been directed toward clearness of expression and the definition of exact limits and details. A test which does not admit of close differentiation should not be retained longer than is absolutely necessary to develop a more exact one.

State Specifications

Some states and municipalities have adopted the plan of designating current federal specifications as those which shall govern within the limits of the state or city. Unless the state or city government has facilities for careful and dependable study of their own local conditions, and unless some peculiar local situation warrants a decided difference in the necessary regulations, this plan has many points to recommend it. Although federal specifications are far from perfect, they are the result of several years of concerted effort by technical men from a dozen government agencies—men who are in a position to know the condition of the petroleum industry throughout the United States and the changes that are taking place.

No revisions are made in these standards until they are studied and criticized by an advisory board, composed of prominent representatives of associations of producers, manufacturers, marketers, and consumers of petroleum products, who give the technical committee the advantage of their widespread knowledge and experience. The members of this board have no other connection with the Federal Government. Their criticisms and suggestions are considered carefully by the committee before that body makes its final recommendations to the Federal Specifications Board regarding any contemplated change or addition to the specifications.

Mention should be made of some of the more important factors which will in some measure affect future gasoline specifications. The detonation property is assuming a considerable importance in the evaluation of modern motor fuels. A specification regulating this characteristic can be developed, however, only when a standard reference is developed and a dependable apparatus for fuel comparison is perfected. Several investigators are studying this problem intensively and an early solution is to be expected. The volatility of motor fuel is of paramount interest and importance. Volatility and carburetor design are so interdependent that research for the purpose of improving carburetion must always be closely correlated with the study of fuel characteristics. The necessity or desirability of developing a motor fuel of any particular type is affected also by the available supply of crude. Specifications can never remain unchanged for long periods of time. Such changes in specifications as would be necessary to insure an adequate supply of motor fuel with limited crude production will not be needed if the crude supply continues to meet the demand for gasoline of the present volatility requirements.

Paper presented at North American Gasoline Tax Conference, Memphis, Tenn., October, 1-3.

THOMAS KERVIN DEAD

BRADFORD, Pa., Oct. 6.—Thomas Henry Kervin, 79 years, and a pioneer producer in the Bradford Field, died Monday, September 24, at his home here. Mr. Kervin was born in North Augusta, Ontario. He came to the United States at the age of 17 years, settling in Shamburg, where he obtained employment in the oil field. He came to the Bradford Field in 1880 and became one of the field's prominent producers. He lived for many years in Duke Center, the heart of the big Bradford oil area. Mr. Kervin was married to Clara Belle Hartman of Titusville in 1878 and his widow and three sons and two daughters survive him.

Statement of the Ownership, Management, Etc., of
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October 1, 1928

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Known bondholders, mortgagees and other security holders, holding 1 per cent or more of the total amount of bonds, mortgages or other securities: None.

W. T. BRYAN,
Treasurer.

Sworn to and subscribed before me this 1st day of October, 1928.

CORA MAE MAXFIELD,
Notary Public.

My commission expires May 15, 1930.

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STEEL BELT LACING

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MEN like the quick, easy application with a hammer as the only tool. They like the smoothness of this—the strongest flexible joint on earth. They like its ready adaptability to any type of service. The cost is trifling compared to the extra protection it gives the belt ends "Never lets go." Common sense tells them that the sectional steel rocker hinge pin will outlast any other type of pin. Year after year see larger quantities of all eleven sizes in use Try Alligator Steel Belt Lacing to like it Recommended and used extensively on powers and in refining plant service—Sold throughout the world.

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In England at 135 Finchley Pavement, London, E. C. 2

WEST TEXAS CRUDE PRODUCTION, SHIPMENTS AND STOCKS IN AUGUST

FORT WORTH, Tex., Oct. 6.—Despite the increased production in Yates, the Roberts Pool in Howard County and the Tiner district in Jones County, West Texas as a whole showed only 136,465 bbls. more production in August than in July. The record production month of April remains intact with a total of 11,192,000 bbls. for that month.

The figures used are preliminary pipe line reports, and are subject to revision

Hendricks and Yates each showed slight gains, and Jones County went up approximately 30,000 bbls. as a result of the activity in the Tiner district. Howard County made the most substantial gain when it increased close to 200,000 bbls. This gain is from the lime producers in the Roberts Pool, which have been opened after being shut in several months. Other counties fluctuated, due either to decline of old production or increasing slightly because of new flush.

Production by fields for August is given in the following table:

Field and county—	Production (bbls.)
Big Lake, Reagan	530,251
Chalk & Roberts, Howard	316,682
Church & Fields, Crane	1,480,220
Connell, Ector	250
Harding, Howard	540
Hendricks, Winkler	5,654,538
Ira Field, Scurry	756
McCamey district, Upton	373,861
Noodle Creek, Jones	87,251
McMillan, Runnels	2,100
Powell, Crockett	96,288
Scarborough, Winkler	0
Skelly, Reagan	1,821
Stephens, Fisher	30,000
Waddell, Crane	450
Westbrook, Mitchell	87,513
Wheat, Loving	3,502
Yates, Pecos	2,161,650
Total	10,826,660

Below is given West Texas production in tabular form by months:

Month—	Production (bbls.)
January	8,886,440
February	9,086,780
March	10,530,271
April	11,192,105
May	9,581,310
June	9,355,420
July	10,690,205
August	10,826,660
Total eight months	80,149,191

Movement of Crude

Movement of crude out of the Hendricks Pool in Winkler County during the month of August totaled 5,240,000 bbls. during the month of August, and storage continues to slowly but steadily increase. Pipe line reports show more than 6,300,000 bbls. of steel storage room in the Winkler district on September 1, and 110,000 bbls. more being built.

The total storage capacity at the end of August was 17,554,660 bbls., including 1,100,000-bbl. concrete reservoir at the Roxana corporation's tank farm at Monahans. Pure Oil Co. is the only company adding to its storage at this time. It is building two 55,000-bbl. tanks on Section 34, Block B-5, Winkler County.

Southern Crude Oil Purchasing Co., the largest acreage holder in the Hendricks Pool, shipped more oil by tank cars than any other shipper last month. Through its transporting company, 469,072 bbls. were loaded on tank cars and shipped to refiners in the East, Gulf Coast and inland Texas.

Below are given tables showing the tank car movement, pipe line shipments and statement showing receipts, deliveries and stocks.

PIPE LINE STATEMENT, WINKLER COUNTY, AS OF SEPTEMBER 1

Company—	Receipts	Deliveries	Storage capacity	Crude oil stocks	Room
American P. Co.	388,867	360,940	1,267,660	1,078,593	189,067
Atlantic O. & P.	1,119,971	868,738	1,200,000	1,126,635	73,365
Cranfill & Reynolds	.....	.....	465,000	455,381	9,619
Gulf Prod. Co.	107,754	.....	2,720,000	2,283,940	436,060
Humble O. & R.	1,291,536	1,140,566	896,000	477,418	418,582
Independent O. Co.	140,478	219,214	285,000	27,415	257,585
Magnolia Pet. Co.	106,774	.....	660,000	441,424	218,576
Paso-Tex P. L. Co.	193,004	238,114	177,000	47,390	129,610
Prairie O. & G. Co.	11,962	.....	165,000	11,902	153,098
Pure Oil Co.	63,738	.....	550,000	500,171	49,829
Roxana Pet. Corp.	886,433	897,725	730,000	631,243	98,757
Roxana-Texas	230,568	200,152	1,600,000	431,545	1,168,455
Shell P. L. Co.	897,725	897,725	1,100,000	1,056,105	43,895
Southern P. L. Co.	879,757	577,875	4,310,000	2,013,879	2,296,121
Texon Oil & Land	116,742	241,107	620,000	442,194	177,806
The California Co.	64,708	172,794	455,000	47,512	407,488
Blue Bonnet Ref.	108,803	114,965	15,000	4,246	10,754
Valley Ref. Co.	108,571	107,900	24,000	10,431	13,569
The Tonkawa Ref.	101,185	101,185	160,000	.....	160,000
Skelly Oil Co.	234,309	248,309	135,000	78,431	56,569
The Burford Ref.	.....	.....	20,000	.....	20,000
The Amarillo Ref.	31,351	31,351	.....	.....	.....
Total	7,087,176	6,418,660	17,554,660	11,165,955	6,388,805

DELIVERIES TO REFINERIES

Texon Oil & Land Co. to Amarillo Ref. Co., Pyote, Tex.	31,351
Texon Oil & Land Co. to The Valley Ref. Co., Pyote, Tex.	108,571
Texon Oil & Land Co. to Tonkawa Ref. Co., Pyote, Tex.	101,185
Southern Crude P. L. Co. to Blue Bonnett Ref. Co., Wickett, Tex.	108,803
Total	349,910

CONCRETE STORAGE COMPLETED

Shell P. L. Co., Sec. 50, Blk N, one	1,100,000

STEEL STORAGE BUILDING REPORT

	No. tanks	Size	Capacity	Remarks
The Pure Oil Co., Sec. 34, Blk. B-5	1	55,000	55,000	Building
The Pure Oil Co., Sec. 34, Blk. B-5	1	55,000	55,000	Grading

RECAPITULATION OF STORAGE

Total capacity of steel storage completed	16,454,660
Total capacity of concrete storage completed	1,100,000
Total capacity of steel storage building and grading	110,000
Total	17,664,660

WINKLER COUNTY TANK CAR SHIPMENTS, AUGUST

American Pet. Co.—shipped to:	
American Pet. Co., Houston, Tex.	64,606
Louisiana O. & R. Co., Shreveport, La.	245,134
Rio Grande O. & R. Co., El Paso, Tex.	50,885
Brownfield & Compton, El Paso, Tex.	255
Total	360,940
Independent O. & G. Co.—shipped to:	
New Orleans O. & R. Co., Narco, La.	219,214
Shell P. L. Co.—shipped to:	
Roxana P. Corp., Wood River, Ill.	194,637
Shell P. L. Co., Texas City, Tex.	128,964
Total	323,601
Skelly Oil Co.—shipped to:	
Crystal O. & R. Co., Shreveport, La.	113,915
Skelly Ref. Co., El Dorado, Kans.	33,662
Louisiana O. & R. Co., Shreveport, La.	100,733
Total	248,309
Southern P. L. Co.—shipped to:	
Standard of Indiana, Whiting, Ind.	44,396
Standard of Indiana, Wood River, Ill.	18,137

(Continued on Next Page)

So Much Depends on Thrust Bearing Efficiency

Friction-free performance, in this day of gruelling wear and tear, is vital to the successful operation of modern machinery. AETNA THRUST BALL BEARINGS are accurately machined—with built-in stamina and dependability to guarantee friction-free performance.

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The Chaplin-Fulton Automatic Cut-Off is on the job at all times. It automatically closes the ports of the regulator valve. The valves must be opened by hand before the gas flow resumes.

There is no chance for dangerous explosions, because even though the diaphragm of the regulator should burst, this cut-off would stop the flow of gas immediately.

The Chaplin-Fulton Mfg. Co.
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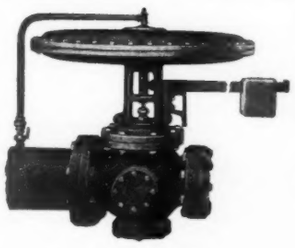
More than 30 years of experience in controlling gas pressure has taught us how to make this device dependable in its operation.



Organized 1884—Oldest builders of regulators in the country. Built in all sizes from 1 to 24 inches; for all services 1 oz. up to 1,600 lbs. pressure per square inch.

Another Greenspon line in the Mid-Continent Field.

Double-joints
—half the welds

Greenspon's ODEE pipe for gas lines saves you 50% of the field welding. Double lengths are made up at our plant, with ends cut smooth and beveled for easy, perfect joints in the field.

Deliveries are always on time—the pipe is in the field when wanted. Write, wire or 'phone for quotations on any size gas or oil pipe or casing.

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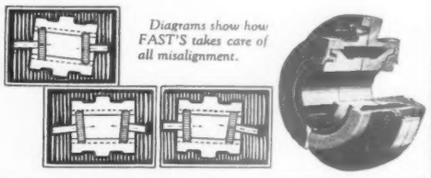
Stop Plant Shut-downs

THE ONLY WAY to eliminate plant shut-downs for flexible coupling replacements is to eliminate flexible materials from coupling design. That is exactly what has been done in Fast's design.

Two spur gears, one on each shaft end, are completely and continuously meshed in oil, with the internal gears of a floating sleeve. The shafts and sleeve turn noiselessly as one unit, allowing free angular and lateral movement.

There is no power loss. Oil between the gear teeth, under centrifugal pressure, carries the load. There are no flexible bushings, pins, springs, discs or grids to fatigue and fail. Instead, Fast's coupling will last as long as the connected machines.



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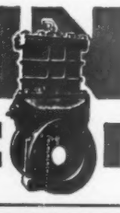
ORIFICE FITTING

Standard of Indiana, Sugar Creek, Mo.	37,140
Chalmette Pet. Co., New Orleans, La.	173,416
Liberty Oil Co., New Orleans, La.	61,474
Star Ref. Co., Fort Worth, Tex.	11,059
Mexican Pet. Co., Galveston, Tex.	123,443
Total	469,072
The Texas Company—shipped to:	
Crystal Ref. Co., New Orleans, La.	27,500
New Orleans Ref. Co., New Orleans, La.	172,652
Total	200,152

PUMPING FROM WINKLER FIELD, AUGUST

	Bbls.
Humble Oil & Ref. Co.:	
To Humble O. & R. Co., McCamey, Tex.	1,140,566
Atlantic Oil & Prod. Co.:	
To Atlantic Oil Prod. Co., Midland, Tex.	868,738
Roxana Pet. Corp.:	
To Shell Pipe Line Co., Monahans, Tex.	897,725
Shell Pipe Line Co.:	
To Shell Pipe Line Co., McCamey, Tex.	574,124
Paso-Tex Pipe Line Co.:	
To Paso-Tex Pipe Line Co., El Paso, Tex.	238,114
Skelly Oil Co.:	
To Skelly Oil Co., Pecos, Tex.	221,276

RETAIL GASOLINE PRICES HIGHEST

(Continued from Page 172)

true there is a stronger opposition to an increased tax than ever before. Following is a table showing the price changes during the month:

GASOLINE PRICES EFFECTIVE OCTOBER 1, 1928

Table showing gasoline tank wagon prices as of October 1, 1928, exclusive of taxes, in 50 representative cities, including the amount and the date of changes since September 1, 1928. High and low prices and State taxes also given.

	Prices Sept. 1	Sept. changes	Prices Oct. 1	High and Low 1927		High and Low 1926		Tax Oct. 1 1928
Birmingham, Ala.	16.0	....	16.0	18.0	14.0	20.0	16.0	4.0
Phoenix, Ariz.	14.0	....	14.0	19.0	16.0	22.0	19.0	3.0
Little Rock, Ark.	16.0	....	16.0	15.0	11.0	18.0	14.0	5.0
San Francisco, Calif.	14.0	....	14.0	14.0	9.0	16.0	13.0	3.0
Denver, Colo.	16.0	....	16.0	18.0	13.0	20.0	16.0	3.0
Hartford, Conn.	18.0	....	18.0	22.0	18.0	21.0	17.0	3.0
Dover, Del.	18.0	19	17.0	19.0	16.0	20.0	17.0	3.0
Jacksonville, Fla.	17.0	....	17.0	16.0	10.0	19.0	12.0	5.0
Atlanta, Ga.	18.0	....	18.0	18.0	10.0	21.0	14.0	4.0
Boise, Idaho	20.5	....	20.5	22.5	19.5	24.0	20.0	4.0
Peoria, Ill.	14.2	....	*15.2	18.2	9.0	19.2	10.5	...
Chicago, Ill.	14.0	....	*15.0	17.0	14.0	18.0	15.0	..
Indianapolis, Ind.	13.2	....	*15.2	18.2	10.2	19.2	16.2	3.0
Des Moines, Iowa	14.5	....	*15.5	16.0	9.9	19.5	16.0	3.0
Wichita, Kans.	13.8	....	13.8	15.8	10.8	16.8	14.8	2.0
Louisville, Ky.	15.0	....	15.0	17.0	13.0	20.0	17.0	5.0
New Orleans, La.	14.5	....	14.5	14.5	11.5	17.5	13.5	†3.0
Augusta, Me.	18.0	....	18.0	22.0	17.0	21.0	17.0	4.0
Baltimore, Md.	17.0	....	17.0	19.0	16.0	19.0	15.0	4.0
Springfield, Mass.	18.0	....	18.0	22.0	12.0	21.0	17.0	...
Detroit, Mich.	14.8	....	*15.8	18.8	11.8	19.8	16.8	3.0
Duluth, Minn.	15.5	....	*16.5	19.5	13.5	20.5	15.5	2.0
Natchez, Miss.	15.5	....	16.5	15.5	12.5	18.5	15.5	4.0
Kansas City, Mo.	13.9	....	*14.9	17.9	10.9	18.9	15.9	†3.0
Helena, Mont.	20.5	....	20.5	22.0	19.5	24.0	21.0	3.0
Omaha, Neb.	15.25	....	15.25	14.25	12.25	19.25	14.25	2.0
Reno, Nev.	18.0	....	18.0	18.0	15.0	19.5	16.5	4.0
Newark, N. J.	16.0	....	16.0	19.0	16.0	19.0	15.0	2.0
Albuquerque, N. Mex.	17.0	....	17.0	20.0	16.0	26.5	20.0	5.0
New York, N. Y.	18.0	....	18.0	22.0	17.0	21.0	17.0	...
Charlotte, N. C.	17.0	....	17.0	19.0	16.0	19.5	15.5	4.0
Fargo, N. Dak.	15.9	....	*17.9	20.9	12.0	21.0	18.9	2.0
Cleveland, Ohio	16.0	....	16.0	19.0	14.0	20.0	16.0	3.0
Tulsa, Okla.	14.0	....	14.0	15.0	10.0	17.0	13.0	3.0
Portland, Ore.	14.5	....	14.5	14.5	11.0	16.0	13.0	3.0
Philadelphia, Pa.	18.0	19	17.0	19.0	12.0	20.0	17.0	†3.0
Providence, R. I.	18.0	....	18.0	22.0	17.0	21.0	17.0	2.0
Charleston, S. C.	17.0	....	17.0	19.0	15.0	19.5	15.0	5.0
Huron, S. Dak.	15.5	....	*16.3	19.5	11.5	20.5	14.0	4.0
Memphis, Tenn.	14.0	8 15.0	15.0	15.0	10.0	18.5	13.5	3.0
Dallas, Tex.	14.0	....	14.0	13.0	10.0	17.0	13.0	2.0
Salt Lake City, Utah	18.5	....	18.5	20.5	16.5	22.5	18.5	3.5
Burlington, Vt.	18.0	....	18.0	22.0	17.0	21.0	18.0	2.0
Norfolk, Va.	14.0	....	14.0	18.0	16.0	19.0	15.0	5.0
Washington, D. C.	17.0	....	17.0	19.0	16.0	19.0	15.0	2.0
Charleston, W. Va.	17.0	....	17.0	18.0	16.0	19.0	15.0	4.0
Milwaukee, Wis.	14.1	....	*15.1	18.1	13.1	19.1	16.1	2.0
Casper, Wyo.	16.0	....	16.0	18.0	14.0	20.0	17.0	3.0
Seattle, Wash.	14.5	....	14.5	14.5	11.0	16.0	13.0	2.0
Minneapolis, Minn.	15.9	....	*16.2	15.2	11.1	20.2	15.2	2.0
Average price	16.04	....	16.30	18.15	13.55	19.777	15.713	2.99

†State tax 2 cents, remainder city tax.
*New quantity discount agreement in Standard of Indiana territory had effect of increasing the price shown here since previous price was based on 50-gallon dump on which a 1-cent discount was allowed. Change made October 1.

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THE Starrett Steel Band and Cable Cutter (a kit tool) is a new method for binding and cutting any grade of wire cable—up to 1 inch. Takes a minute and leaves a steel sleeve on the end of the cable. No frayed ends or torn hands.

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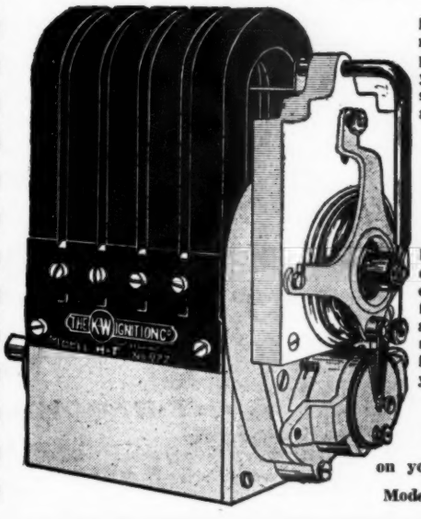

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SUGGESTS MODEL GASOLINE TAX SHOULD BE BASED ON RECEIPTS

By F. E. Packard*
General and Tax Attorney, Standard Oil Co. of Indiana

The attitude of the oil industry toward the gasoline tax can be summarized in a few words. It resents with general unanimity the isolation in which it finds itself in bearing the expense of the building and maintenance of modern highways throughout the United States. It sees no reason why other industries, whose business depends in part or in whole upon roads or road building, should not share in this burden. There is a willingness to assist within reasonable measure in pulling the country out of the mud and putting it upon surfaced roads, but this ought not to be a game of solitaire and others benefited should sit in the game.

The industry most earnestly protests the high tax upon gasoline now being levied by many states, and the tendency of all states to go to a 4 or 5-cent gasoline tax. I think that the consensus of opinion is that no state can successfully administer the revenue resulting from a tax in excess of two cents per gallon. There can be no question that a tax in excess of that amount is injurious to the industry, and has been an important factor in bringing about the present situation.

Limit to Burden

There is a limit to the amount of money which can be spent by any state for gasoline. As the price mounts, resulting from the tax, consumption decreases and business is curtailed. Had there been no gasoline tax in the United States last year, a very considerable portion of the $250,000,000 paid into state treasuries would have been spent for gasoline and would have resulted in a consumption of the major portion or all of surplus stocks, and a more uniform and higher price. On the other hand, as the price level declines the spread is narrowed between cost and price until there is no room for both the tax and the profit, and the profit suffers.

The industry believes that state legislatures and finance officials ought to have in mind the well-being of the industry and not tax it out of existence. The experiences of the states in attempting to levy excises or indirect taxes has been that they have levied them without recognition of the ability of the taxpayer to bear them, and such attempts have been short-lived. Such taxes are indirect and it has taken the people some time to realize where the burden was falling. As a result, there is little opposition in the earlier stages. The failure of the taxpayer who bears the tax directly or indirectly to raise a hue and cry encourages the state to increase the burden until the public understands their incident and then it makes short work of them. The excise tax has come and gone at various times in the history of the several states, but at no time and at no place, until the last decade, has it ever grown to very great proportions, and nowhere has it endured.

If the principle of gasoline taxation is to be saved from eventual renunciation, and if the tax itself is to be saved from eventual abandonment, there must be uniformity and reasonableness in the amount of the tax. To borrow a phrase from current political debate, their "mechanism" must not work undue hardship upon the industry. The fact must never be lost sight of that under the present law, the oil dealer is not only a tax collector, but he is also a tax guarantor. For the first time in the history of finance, a citizen has been charged with the collection of a tax which if he fails to collect he himself must pay.

Faulty Administration

Few, if any, of the laws now in operation in all but one of the states of the union have perfect "mechanism." Many changes would be amply justified solely for improvement in this administration. In the background, however, there lurks a much more vital reason, namely, the good will of the tax collector. His good will insures against litigation, and the possible defeat of the law itself at the hands of the courts. A sympathetic cooperation between the State and the industry is of much more vital importance to the State than to the industry. A model law would provide more certainty and uniformity which would not only simplify and lessen the burden of collecting and accounting for the tax on the part of the oil companies, but would also aid state officials charged with administration.

The model act should be a "receipts tax." Technically, it would be a sales tax, receipts being used merely for expediency in computing the amount of the tax. It makes the tax much more certain—much more easy of administration—and simplifies checking the amount of taxable gasoline which is returned by the distributor.

The act should provide a uniform, nominal allowance for shrinkage as the most feasible means thus far discovered for reimbursing the oil companies in part, at least, for their expenses and loss incident to the collection of the tax, and for the far greater reason that although it is a gesture only in the direction of compensation it would hold the loyalty of the tax-gathering oil companies.

If the state should attempt to collect the tax directly from the ultimate consumer, the added cost of collection and the resulting loss of the gasoline escaping taxation would soar to a percentage several times as great as the amount of shrinkage provided in many of the states of the Middle West, namely, 3 per cent.

Receipts Should Be Basis

The basis of the tax should be the amount of gasoline which is actually received in the state. As a matter of law, the state may not base the tax upon the actual volume which leaves the point of shipment without the state, but must base it upon the actual amount which arrives at destination, thus passing out of interstate commerce by coming to rest within the state and mingling with its other goods.

The act should exclude refinery and tank farm storage for the reason that such storage has not entered the channels of distribution. It is still in the hands of the manufacturer. To tax it there would mean a prepayment of the tax long before the gasoline is definitely started on its way to the consumer. Such prepayment forces the oil companies to make a loan to the state in perpetuity and without interest for the amount of tax thus prepaid. While it is a fact that the oil distributor collects upon gasoline which is in storage on the date the law goes into effect, yet as he ships out each car or hauls out each tank truck load, he replaces it with in-shipments so that he always has this avearge amount of gasoline in storage upon which the state ought not in equity collect the tax. In other words, the state ought not to force from the oil industry of the ten states in which the Standard Oil Co. of Indiana operates, a loan in perpetuity without interest of from $12,000,000 to $15,000,000. Such a forced loan from the entire industry of the entire United States would reach an enormous total.

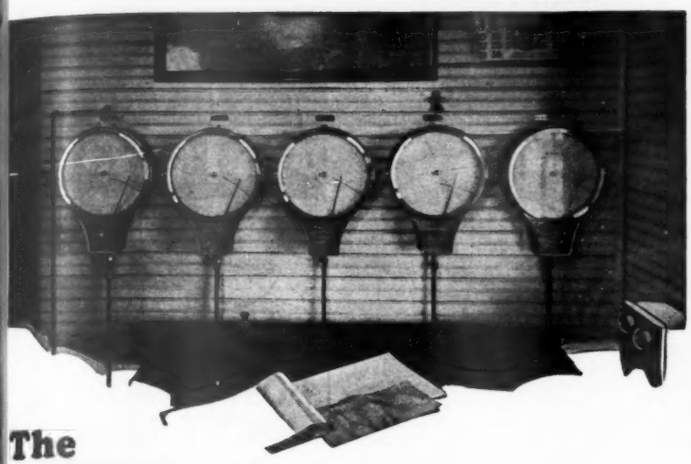
Ban Local Tax

The law should include an "in lieu of" provision which would preclude the political subdivisions of the state from levying a similar excise upon this commodity. Scores of municipalities in the Middle West are levying a sales tax upon gasoline, which, added to the high rate of some of the states, results in a tax upon gasoline in excess of its original cost. It is axiomatic that no such unreasonable burden can long endure.

If all the states had a uniform rate and conformity of "mechanism", boot-

(Continued on Page 192)

*Before North American Gasoline Tax Conference, Memphis, Tenn., October, 1928.



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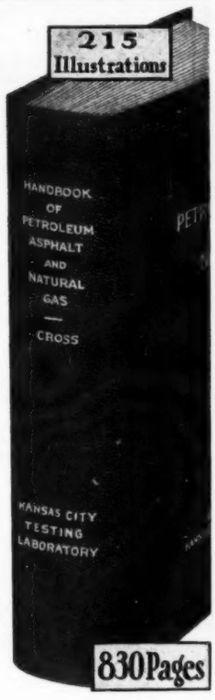

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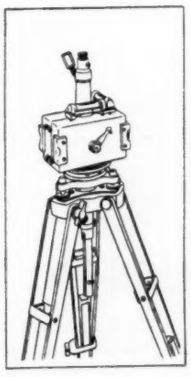

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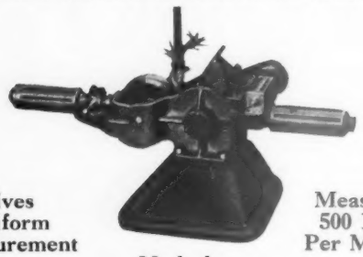

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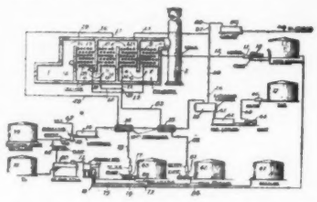
Recent Patents

1,675,558. Art of Cracking Hydrocarbons. Edward W. Isom, Winnetka, Ill., and Charles L. Parmelee, Orange, N. J., assignors to Sinclair Refining Co., Chicago, Ill., a corporation of Maine. Filed March 3, 1923. Serial No. 622,508. 23 Claims. (Cl. 196—58.)



1. A process of cracking heavy hydrocarbons to produce lighter hydrocarbons comprising passing the oil through a heating zone of restricted cross section, heating it therein to a cracking temperature and adding to the oil at an intermediate point of said heating zone during its passage therethrough and before the heated oil becomes saturated with tar an oil capable of acting as a solvent for the tar formed during cracking.

1,681,321. Process and Apparatus for Treating Oil. David G. Brandt, Westfield, N. J., assignor to Doherty Research Co., New York, N. Y., a corporation of Delaware. Filed March 23, 1922. Serial No. 545,974. 5 claims. (Cl. 196—66.)

1. A process for cracking high boiling-point hydrocarbons to form low boiling-point hydrocarbons comprising maintaining a body of high boiling-point oil under pressure, vaporizing a lower boiling-point oil in contact with vapors, said lower boiling point oil having a relatively narrow boiling point range and said vapors being of the type that remain uncondensed after passing through the ordinary gasoline condenser, passing the mixed vapors through the body of high boiling point oil to crack the oil, condensing undesired fractions from vapors leaving the high boiling-point oil and mixing this condensate with similar boiling-point oil to form said lower boiling-point oil for the process.

5. In an apparatus of the kind described, a cracking chamber, means for preheating oil, a conduit for leading oil from the preheating means to the said cracking chamber, a dephlegmator, means for passing vapors from the said cracking chamber to the dephlegmator, and means for returning vapors condensed in the dephlegmator to the cracking chamber, a series of condensers, means for conducting vapors from the dephlegmator to the condensers, means for separating the heavier portion of the vapors condensed in the condensers and passing it through the dephlegmator to be preheated and from thence to a heating coil, means for passing uncondensed vapors from the condensers to the said heating coil, means for heating the said coil, and means connecting the said heating coil with the cracking chamber.

1,683,151. Method and Apparatus for Distilling Petroleum Oils. John E. Bell, Brooklyn, N. Y., assignor to Sinclair Refining Co., Chicago, Ill., a corporation of Maine. Filed April 1, 1924. Serial No. 703,338. 8 Claims. (Cl. 196—139.)

1. In the fractional distillation of petroleum oils, introducing hot oil vapors into the lower portion of a fractionating tower and introducing the oil to be fractionated into the upper portion of the said tower, causing the liquid oil introduced into the upper portion of the tower to flow downwardly in a substantially continuous helical stream through the tower and causing the oil vapors to flow upwardly in a helical path in direct contact with the surface of the stream of liquid oil and in indirect heat exchanging relation with the stream of liquid oil at a higher point.

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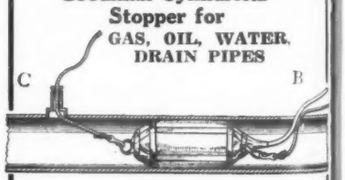

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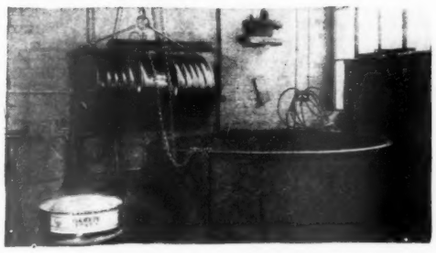

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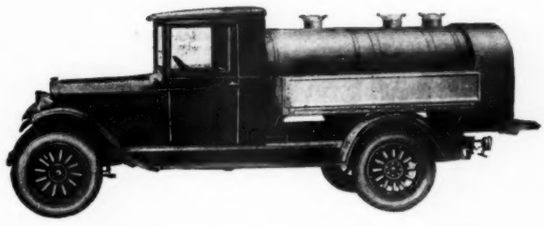

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MODEL GASOLINE TAX BASED ON RECEIPTS

(Continued from Page 188)

legging between adjoining states through the different tax rates would be at an end. It would also assure equitable distribution among the states of the tax paid by interstate tourists. It would prevent senseless competition between the states for the lion's share of this revenue and the prohibitive rates which are bound to result therefrom.

The revenue derived from this tax should be used by the state for the building and maintenance of trunk highways, and not used by the counties or cities for the building and maintenance of streets and secondary roads. Every road should start somewhere and go somewhere to the end that the states may be provided with a system of trunk highways.

The tax at first was moderate and the proceeds appropriated for road building and maintenance. The late tendency is to divert the revenue and increase the rates. As we are going now, it promises to be an intolerable exploitation of the oil industry and the motor vehicle user.

RUSSIA HANDICAPPED BY EMULSIFICATION

The Soviet authorities are devoting much attention to the problem of emulsified oil which forms a large portion of the output in Grosny and in the Surakhany and Karachkhur fields of Baku. At the same time the intensified method of refining yields large quantities of emulsified fuel oil. While hitherto the viscosity of fuel was standardized up to 7 at 50 degrees, according to Engler, the present standard is 9 and is increasing to 12 and perhaps 14.

The problem, therefore, is the transportation and utilization of this fuel oil in the country. The present system of transportation in barges is considered unsuitable. Cases are cited where in Novorossisk by the end of May this year 300 tanks of emulsified fuel oil were hindering transport and "even prevented the normal deliveries of oil to that port which serves as the distributing center for the whole of the Ukraine." The difficulties of unloading are great; the tanks used at present must be heated with steam and even the oil itself must be impregnated with steam. This adds to overhead charges and at the same time adds water to the oil.

The oil industry, according to G. Grigorian, is facing the dilemma of how to transport emulsified and viscous products during the coming autumn and winter. Their problem is intensified by the fact that the Naphtha Syndicate has been selling large quantities of these dark products to foreign buyers. Unless the Commissariat of Transport can be influenced to provide "thermos tankers," the deliveries cannot take place.

The opinion is expressed that the quantity of emulsified and viscous oil obtained in the Soviet Union will increase and that unless the problem of transporting it for export and the home market is solved quickly the progress of the oil industry may be delayed, and profitable sales will decline.

DEATH OF J. A. McMURDY

J. A. McMurdy, aged 66 years, who had been employed by the Hazlewood Oil Co. for 43 years, died at Robinson, Ill., recently. Mr. McMurdy began work for the oil company when he was 19 years old, retiring several years ago. For 23 years he was the company's superintendent in the Robinson Field.

SEEK OIL IN IOWA

For several years oil men have endeavored to get a foothold in Page County, near Clarinda, Iowa, but farmers have been loath to enter into leases. Several farms are now reported lined up for drilling. Machinery is on the William Wilson farm, 4 miles south of Clarinda.

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SUMMARY OF ALL FIELDS

Wells Completed

Field—	Comp.	Prod.	Dry	Gas
Eastern	428	1,846	33	53
Central Ohio	113	407	35	54
Lima	29	633	14	0
Indiana	26	272	11	8
Michigan	14	210	2	7
Illinois	17	428	6	0
Kentucky	130	3,390	38	4
Tennessee	5	165	0	0
Oklahoma	315	214,738	93	31
Kansas	66	6,280	22	7
Texas Panhandle	22	2,385	4	6
N. Cen. Texas	307	16,804	146	10
Southwest Texas	74	6,406	31	15
E. Cen. Texas	12	472	10	0
West Texas	112	839,836	21	0
East Texas	8	6	3	4
Gulf Coast	139	35,881	79	1
N. Louisiana	40	380	23	12
Arkansas	35	1,574	16	4
Wyoming	14	5,579	0	1
Montana	51	3,186	16	6
Colorado	6	960	5	0
New Mexico	3	175	2	0
Total Sept.	1,966	1,142,013	610	223
Total Aug.	2,008	1,236,819	598	220
Difference	42	94,806	12	3

Rigs and Wells Drilling

Field—	Rigs	Dry	Total
Eastern	97	351	448
Central Ohio	75	148	223
Lima	5	37	42
Indiana	2	56	58
Michigan	21	58	79
Illinois	7	19	22
Kentucky	16	170	186
Tennessee	4	14	18
Mississippi	0	22	22
Oklahoma	139	773	912
Kansas	56	243	299
Texas Panhandle	37	125	162
N. Central Texas	96	426	522
E. Central Texas	3	15	18
West Texas	91	344	435
Southwest Texas	33	145	178
East Texas	4	7	11
Gulf Coast	20	189	209
North Louisiana	34	82	116
Arkansas	27	73	100
Wyoming	27	129	156
Montana	34	100	134
Colorado	13	86	99
New Mexico	19	75	94
Utah	3	31	34
Total September	859	3,718	4,577
Total August	868	3,703	4,571
Difference	9	15	6

Note—In the following report the Section, Township and Range are given first; then the farm, the owner, the serial number of the well and the initial production of the well. In lines where the Section, Township and Range are missing the wells are located in the Sections, Townships and Ranges which appear next above in the report.

OKLAHOMA FIELDS

Summary of Wells Completed

County—	Comp.	Prod.	Dry	Gas
Carter	7	946	1	0
Creek	25	2,233	9	6
Grady	9	80	1	4
Jefferson	10	155	4	0
Kay	12	912	4	3
Muskogee	20	305	11	3
Okfuskee	10	1,689	1	0
Okmulgee	23	320	13	2
Osage	21	185	3	5
Pontotoc	5	1,020	0	0
Pottawatomie	31	68,405	3	1
Seminole	83	132,185	13	2
Stephens	11	234	5	1
Wagoner	10	.....	8	2
Miscellaneous	38	6,069	17	2
Total Sept.	315	214,738	93	31
Total Aug.	266	115,540	79	25
Difference	49	99,198	14	6

Summary of Rigs and Wells Drilling

County—	Rigs	Drlg.	Ttl.
Carter	5	16	21
Creek	13	60	73
Grady	4	12	16
Grant	..	13	13
Hughes	2	10	12
Jefferson	..	9	9
Kay	..	14	14
Logan	1	23	24
Muskogee	6	26	32
Okfuskee	15	22	37
Okmulgee	9	37	46
Osage	6	25	31
Pawnee	2	8	10
Payne and Lincoln	1	14	15
Pontotoc	2	21	23
Pottawatomie	34	152	186
Seminole	23	191	214
Stephens	8	33	41
Tulsa	..	9	9
Wagoner	2	6	8
Miscellaneous	6	72	78
Total Sept.	139	773	912
Total Aug.	170	819	989
Difference	31	46	77

WELLS COMPLETED

CARTER COUNTY

23-1s-3w Gill, Magnolia Pet. Co. 1 33
Gill, Magnolia Pet. Co. 2 232
28-1s-2w Miller, Magnolia Pet. Co. 1 25
6-2s-3w Eason, Roxana Pet. Corp. 1 ..... dry
11-2s-3w Lyles, Schermerhorn Oil Co. et al 4 110
19-1s-3w Eason, Atlantic O. P. Co. 1 30
28-1s-3w Lewis, Magnolia Pet. Co. 4 116

Wells completed 7
Production 946
Dry 1

CREEK COUNTY

17-14- 8 Watley, Flynn & Morgan 1 ..... gas
9-18- 7 Long, Sinclair O. & G. Co. 12 .. 3
18-19- 9 Sewell, Roxana Pet. Corp. 7 ... 175
4-18-12 Grayson, C. B. Lynch 1 ..... gas
3-17-10 Taylor, Tidal Oil Co. 1 ..... dry
36-16-10 Burford, Peters Pet. Corp. 1 ... 20
1-15-10 Smith, Barnsdall Oil Corp. 1 ... 1170
7-14-10 Harjo, Lyons Pet. Co. 1 ..... dry
17-17- 7 Tiger, C. H. Lebow 9 ..... dry
20-17- 7 Robinson, Tidal Oil Co. 2 140
24-18-11 Strip, Kennedy & Horner 3 ... dry
4-18-12 Jackson, C. G. Tibbens 5 ..... gas
3-17-11 Layton, Wallace et al 3 ..... gas
29-15- 9 Futrell, John Hayden 4 ..... dry
30-15- 9 Winter, C. G. Tibbens 1-A ..... gas
13-14- 9 Lamons, Tom Kelly et al 1 .... dry
30-14- 8 F. Kernal, Prairie O. & G. Co. 3 dry
20-17- 7 Coachman, Twin State Oil Co. 2 220
Roberson, Tidal Oil Co. 4 70
17-19- 9 Murrell, Gled Oil Co. 1 ..... gas
6-19-10 Futrell, John Hayden 4 25
27-16- 9 Sharper, Transcontinental Oil Co. 2 ..... dry
13-15- 9 Wright, Madden & Madden et al 2 400
Farmer, Madden & Madden et al 3 ..... dry
10-14-10 Ramsey, F. A. Havel et al 1-A. 10

Wells completed 25
Production 2233
Dry 9
Gas 6
Gas production 21,000,000

GRADY COUNTY

8-3-5w Horton, Carter Oil Co. 7 80
8-3-7w Brown, David Malernee 1 ..... dry
14-4-8w Cox, Twin State Oil Co. 3 ..... gas
7-5-7w Drake, Nichlos & Page 1 ..... dry
22-5-8w Tendell, Badgett & Hughes 1 ... dry
25-5-8w Serrata, Meridian Gas Co. 3-A. gas
36-5-8w School, Oklahoma Gas Utilities Corp. 2 ..... gas
21-3-5w Spaulding, Carter Oil Co. 3 ..... dry
24-4-8w Mileur, Becker et al 1 ..... gas

Wells completed 9
Production 80
Dry 1
Gas 4
Gas production 68,000,000

JEFFERSON COUNTY

24-6s-6w Spring, Bridwell et al 5 ..... dry
17-7s-5w Trout, McGinley & Sigler 1 .... dry
Cluck, McGinley & Sigler 5 25
20-7s-5w Pfile "B," McGinley & Sigler 2 37
17-7s-5w Peniston "A," Lesh & McCall 7 35
Busby, Gypsy Oil Co. 3 31
34-6s-5w Seay, Beck & Lapham 2 15
23-6s-6w McKenzie, Magnolia Pet. Co. 1. dry
34-1s-8w Simpson, Medlin et al 2 ..... dry
20-7s-5w Pfile "B," McGinley & Sigler 3 12

Wells completed 10
Production 155
Dry 4

KAY COUNTY

21-29-3 Love, A. L. Doner 1 ..... gas
3-27-1 Myer, Superior Oil and J. Lindsey 1 ..... gas
32-28-1w Root, Dewey, Mitchell et al 1. dry
30-25-1w Poole, Carter Oil Co. 1 ..... dry
18-29-1 Cole, Tidal Oil Co. 3 ..... gas
Cole, Tidal Oil Co. 3 583
19-29-1 Piper, Wilson O. & G. Co. and Barnsdall Oil 1 20
31-27-2 Schmidt, Comar Oil Co. 2 5
2-27-3 Murdock, Wilson & Bradshaw 1-A ..... dry
15-25-1w McDaniels, Tonkawa Dev. Co. 1 dry
18-29-1 Johnson, Carter Oil Co. and Ona Oil 3 300
7-27-2 Rustle, Burnham & Pochelle 4 dry

Wells completed 12
Production 912
Dry 4
Gas 3
Gas production 20,675,800

MUSKOGEE COUNTY

8-13-16 Lewis, G. D. Robinson et al 1. 10
8-15-15 Barnett, Babcock Bros. 1 125
33-15-15 M. Jefferson, Jack Summers et al 2 ..... dry
29-15-16 Howard, Jack Summers 2 ..... gas
17-15-19 Ratley, W. W. Raines et al 1.. dry
34-15-19 Ackley, J. O. Tilly 1 ..... dry
19-14-16 Reed, Vogler & Lightner 2 .... dry
19-14-17 James, J. M. Foltz 4 ..... dry
6-14-18 Roberts, Tidal O l Co. 11 ..... dry
11-14-18 Scott, J. G. Graham 1 ..... dry
6-14-19 Townsit, J. F. Blackwood et al 1 ..... dry
Cobb, J. A. Evans 1 ..... dry
Cumpton, W. J. Metzger et al 2 10
8-13-16 Lewis, G. D. Robinson 1 80
20-15-17 Rector, J. D. Garrison 1 ..... dry
5-14-18 Grimmett, Tidal Oil Co. 14 5
8-15-15 Barnett, Bryan & Emery 6 .... gas
17-15-17 Lewis, H. E. Williams 3 ..... gas
28-15-18 Gossett, M. S. Musselem 1 .... dry
1-14-18 Francis, W. J. Metzger et al 3. 75

Wells completed 20
Production 305
Dry 11
Gas 3
Gas production 25,500,000

OKFUSKEE COUNTY

15-11-11 Jacobs, Champlin O. & R. Co. 10 510
22-11-11 Holmes, Champlin O. & R. Co. 8 510
2-10-11 Johnson, W. L. Umbrum 1 50
31-12-10 Tiger, Barnsdall Corp. 1 ..... dry
35-11- 9 Wind, Atlantic O. P. Co. 2 12
35-11- 9 Severs, E. L. Robinson et al 2. 7
11-10-11 Fier, Devonian Oil Co. 2 70
12-10-11 Robinson, T. A. Johnson 1 25
22-11-11 Holmes, Champlin O. & R. Co. 7 175
2-10-11 Tiger, W. L. Umbrum 6 30

Wells completed 10
Production 1689
Dry 1

OKMULGEE COUNTY

3-14-11 Blunt, J. H. Reboid Oil Co. 1 dry
32-13-11 Thomas, Denver P. & R. Co. 7. dry
8-15-14 Asbury, The Texas Company 2 25
21-14-13 D. Ross, B. & B. Drlg. Co. 1 ... dry
4-12-14 Porter, McInturff et al 1-A ... dry
17-13-11 Lasky, The Prairie O. & G. Co. 1 ..... gas
19-15-13 London, Kirkland & Son 1 10
14-14-14 Colbert, J. E. Wallace 1 25
22-14-14 Corbray, Mechlin & Berlin 2 .. dry
1-13-12 Unallotted, M. Kavanough Tr. 1-A ..... dry
1-15-12 Roberts, Shaffer O. & R. Co. 1 dry
12-15-12 Gay, Noble O. & G. Co. 1 ..... dry
17-15-13 Brooke, Kirkland & Son 3 10
19-15-13 Depriest, Kirkland & Son 1 ... dry
10-15-14 Skidmore "B," W. B. Pine 2 .. 10
21-15-14 Brown, Papoose Oil Co. 12 75
17-12-13 Burgess, W. B. Pine 2 ..... gas
27-12-12 Bullett, Chief Drlg. Co. et al 1 90
3-15-12 Messer, Curtis Oil Co. et al 1. dry
2-15-14 Anderson, Blake & Kenney 1-A dry
36-15-14 Scott, J. A. Swindler 7 ..... dry
17-14-13 Berryhill, F. E. Smith 1-A .... dry
3-13-14 Tucker, Tiger Mtn. Oil Co. 3 .. 75

Wells completed 23
Production 320
Dry 13
Gas 2
Gas production 20,562,000

OSAGE COUNTY

5-26- 6 Carter Oil Co. 10 ..... dry
22-24- 7 Marland Gas Prod. Co. 4-A ... gas
32-24-12 Osage Gas Producers Co. 390 .. gas
30-21-10 Devonian Oil Co. 1 ..... gas
5-20-11 Sand Springs Home 10 35
11-23-11 A. H. Pettigrove 6 10
5-21- 9 Davis & Wright 3 ..... dry
9-21- 9 Clint Moore estate and Ohio Osage Oil 8 8
Clint Moore estate and Ohio Osage Oil Co. 9 5
14-29-11 C. O. Ross 9 5
36-27-11 Knupp Oil Co. 8 15
25-26- 8 Nath Jones 1 6
33-26-12 Skelton & Moore 5 40
22-24- 8 Delmar Oil Co. 2 6
32-24- 8 C. F. Lake et al 1 10
32-24-12 Osage Gas Producers 391 ..... gas
29-23- 9 I. T. I. Oil Co. 398 ..... gas
27-24-10 Winona Oil Co. 8 10
12-23-11 Silurian Oil Co. 3 45
34-22-10 Tidal Osage Oil Co. 17 ..... dry
22-22-11 Ray Branstetter 1 15

Wells completed 21
Production 185
Dry 8
Gas 5
Gas production 15,000,000

PONTOTOC COUNTY

29-5-5 Roberts, Jolly-Ogg Oil Co. 2 30
32-5-5 Mauldin, Superior Oil Co. 1 240
17-5-8 McCall, Homaokla Oil Co. 13 375
19-5-8 Perry, Louisiana O. R. Corp. 14. 367
29-5-8 Patterson, Blackstock & Delaney 1 8

Wells completed 5
Production 1020

POTTAWATOMIE COUNTY

14- 7-4 Singletary, Magnolia Pet. Co. 2. 707
19- 7-5 Youts, Independent O. & G. 2 .. 3990
Youts, Independent O. & G. 3 .. 5105
Hembree, T. B. Slick 4 10,980
30- 7-5 Gammon Prairie O. & G. Co. 1. 3710
12-10-3 Ives, Sikes, Kilgore & Shaffer 1 dry
7- 8-5 Bourassa, Gypsy Oil Co. 1 2100
19- 7-5 Deckard, Independent O. & G 2. 175
24- 7-4 Blandin, Sinclair O. & G. 3 1655
19- 7-5 Youts, Independent O. & G. 5 .. 4849
Shipshewohno, Magnolia Pet. Co. 4 63
30- 7-5 Stahl, Phillips Pet. Co. 2 7457
30- 7-5 Stahl, Gypsy Oil Co. 1 6702
25- 7-4 Desmond, Prairie O. & G. Co. 3 2,475
16- 9-5 State, Gypsy Oil Co. 1 817
25- 7-3 Davis, Pierce Oil Corp. 3 ..... dry
10- 7-4 Wyatt, Wilcox O. & G. Co. 1 ... 25
22- 7-4 Hathcock, Darby Pet. Co. 2 .... gas
23- 7-4 Carson, Independent & Darby 1 192
McGee, Interocean Oil 2 75
McGee, Interocean Oil 3 327
Singletary, Magnolia Pet. 3 50
24- 7-4 Coley, Interocean Oil and Western Oil 1 360
Blandin, Sinclair O. & G. 4 ... 1500
25- 7-4 Collins, Gypsy Oil 1 1162
Bruno, McCulloch Oil 3 827
Cherry, Phillips Pet. 2 727
19- 7-5 Youts, Independent O. & G. 4 ... 5600
Kitchee, Sinclair O. & G. 2 510
30- 7-5 Stahl, Gypsy Oil 2 6262
16- 6-5 School land, T. B. Slick 1 .... dry

Wells completed 31
Production 68405
Dry 3
Gas 1
Gas production 22,000,000

SEMINOLE COUNTY

4-10-8 Yarbrough, Sinclair O. & G. 6 .. 20
15- 9-7 Bryan, Pure Oil 1 315
1- 9-5 Sango, Gypsy Oil 9 3670
Ingram, Superior Oil 2 465
6- 9-6 Wisner, Burke-Greis et al 1 .. 1968
James, Carter Oil 4 5745
25- 9-6 Wilkins, Mid-Kansas Oil 3 .... dry
8- 8-6 B. Micco, Carter Oil 1 730
Hayes, Twin State Oil 1 905
36- 8-6 W. Cosar, Gypsy Oil 2 420
Narcome, Shaffer O. & R. 2 317
10- 7-6 Lena, Carter Oil 1 3980
11- 7-6 Milsey, Continental Oil 2 4645
Denmark, Gypsy Oil 2 2342
Denby, Magnolia Pet. 1 1792
Denby, Magnolia Pet. 2 236
13- 7-6 Davis, Independent O. & G. 1 .. 2170
Wood, Independent O. & G. 1 .. dry
Johnson, Roxana Pet. 1 3220
14- 7-6 Tewee, Carter Oil 1 4310
Hulhoke, Gypsy Oil 2 447
Hulhoke, Gypsy Oil 3 527
Tewee, Independent O. & G. 1 .. 1590
15- 7-6 L. Williams, Sinclair O. & G. 1 dry
23- 7-6 Aleck, Mid-Continent Pet. 1 ... 3070
Cotcha, Pure Oil 3 3580
Cotcha, Pure Oil 5 2810
7- 5-8 Hulwa, Sunray Oil 1 ..... dry
18- 5-8 Peter, Sinclair O. & G. 1 30
18- 5-8 Nichey, Sunray Oil 3 1320
14- 7-6 Harris, Prairie O. & G. 1 3725
Harris, Prairie O. & G. 2 4150
Sunny, Prairie O. & G. 1 5745
Sunny, Prairie O. & G. 2 4470
Sunny, Prairie O. & G. 3 3450
Sunny, Prairie O. & G. 4 6485
Talley, Prairie O. & G. 1 3720
Gibson, Prairie O. & G. 2 7140
Gibson, Prairie O. & G. 3 1500
35-10-5 Walker, Tidal Oil 1 2320
36-10-5 Sango, Shaffer O. & R. 1 832
3-10-6 Davis, Superior Oil 1 ..... dry
1- 9-5 Sango, Gypsy Oil 8 1777
6- 9-6 James, T. B. Slick 1 ..... gas
22- 8-5 Ritenour, I. T. I. Oil 1 ..... dry
7- 8-6 Maines, Roxana Pet. and Papoose Oil 1 1500
26- 8-6 Hull, I. T. I. Oil 4 872
11- 7-6 Baker, Blackwell O. & G. 1 .. 600
Bruner, Mid-Continent Pet. 2 .. 2830
13- 7-6 M. Harjo, Carter Oil 2 1252
Coker, Empire O. & R. 1 780
Tiger, Snowden & McSweeney 2 .. 2420
14- 7-6 Talley, Blackwell O. & G. 1 990
Hulhoke, Gypsy Oil 6 1872
Harjo, Magnolia Pet. 2-A 650
15- 7-6 Williams, Independent O. & G. 2 1705
L. Williams, Sinclair O. & G. 2 ..... dry
Williams, T. B. Slick 1257
22- 7-6 Cotcha, Gypsy Oil 3 125
Cotcha, Pure Oil 4 130
31- 7-6 Patton, Omar Oil and Commercial Oil 1 ..... dry
24- 5-7 Cyndi, Cal-Cul Oil 2 ..... gas
18- 5-8 Peter, Gypsy Oil 9 300
14- 7-6 Harris, Prairie O. & G. 3 610
Talley, Prairie O. & G. 2 1550
1- 9-5 Mayes, Skelly Oil 1 2499
5- 9-6 Jackson, Barnsdall Oil 1 65
6- 9-6 Shepherd, Skelly Oil 1 2224
James, Carter Oil 2 475
8- 8-6 Hayes, Amerada Pet. 1 ..... dry
15- 8-6 Goforth, I. T. I. Oil 12 97
36- 8-6 Cosar, Continental Oil 6 75
Cosar, Sinclair O. & G. 4 ..... dry
10- 7-6 Lena, Magnolia Pet. 1 ..... dry
14- 7-6 Tewee, Carter Oil 3 2662
Tewee, Champlin O. & R. 2 1100
Bunyard, Reiter-Foster Oil 3 .. 1025
15- 7-6 Williams, Independent O. & G. 3 ..... dry
23- 7-6 Cotcha, Barnsdall Oil 1 1477
Cotcha, Carter Oil 2 ..... dry
24- 7-6 Larney, Carter Oil 2 2015
18- 5-8 Nichey, Sunray Oil 4 1385
14- 7-6 Gibson, Prairie O. & G. 4 1405

Wells completed 83
Production 132,185
Dry 13
Gas 2
Gas production 90,600,000

STEPHENS COUNTY

19- 1-8w Maxey, Brannon & Fisher 1 ... dry
12-2s-8w Fobb "B", Murphy Oil Co. 14 .. dry
18-2s-7w Bristowe, Geo. Pace et al 7 ... 150
36- 1-4w Wright, Magnolia Pet. Corp. 1 .. dry
24-1s-4w A. Franklin, Wirt Franklin Pet. Corp. 8 ..... gas
34-1s-8w Burke, Roy Carter 3 12
18-3s-6w Beaver, Ranch, Harry Hines 1 .. dry
34-1s-8w Simpson, Medlin et al 1 15
12- 1-6w Frensely, Cruce Oil Co. 1-A .. dry
7-2s-7w Bond, The Prairie Oil & Gas Co. 5 37
34-1s-8w Burke, Medlin et al 4 20

Wells completed 11
Production 234
Dry 5
Gas 1
Gas production 8,000,000

WAGONER COUNTY

31-19-16 Replogle, Bradley & Musselem 2 ..... dry
32-19-16 Thomas, J. H. Stryker 1 ..... dry
12-18-15 Davis, C. F. Cornett 1 ..... dry
25-18-15 Atkins, A. E. Cardor 1 ..... dry
22-18-17 Cinda, A. K. Crichton 2 ..... dry
12-17-15 Haynie, Turley Bros. 1-A ..... dry
34-17-18 Grayson, Elk Drlg Co. 1-A ..... dry
3-15-16 Rulison, Taylor & Geiger 1 ..... dry
6-19-15 Rogers, Minshall et al 1 ..... gas
36-16-17 Brown, Hale Ford Oil Co. 2 ... gas

Wells completed 10
Dry 8
Gas 2
Gas production 4,500,000

MISCELLANEOUS COUNTIES

Pawnee County—

22-20-9 Sinnett, T. E. Mann et al 1 ..... dry
24-21-7 ——, Peter Adamson, Jr. 1 ..... dry
23-20-9 Richards, Thompson & Black 1-A ..... dry

Payne County—

7-18-5 Goss, Producers & Refiners Corp. 1-B ..... dry

Logan County—

18-19-4w Weber, Sinclair O. & G. Co. 1-A 2958
19-19-4w Rouse "B", Roxana Pet. Corp. 1 2310
30-19-4w Sebranek, Roxana Pet. Corp. 1 525
28-17-1 Berk, T. B. Slick 1 35

Cotton County—

2-2s-10w Chambers, Moore et al 1 50
10-5s-13w Indian, C. A. Everts 1 ..... dry
3-2s-10w Priddy, Cullum & Perkins 3 ... gas

Tillman County—

9-1s-15w Barker, Bray et al 1 ..... dry
23-2s-17w Hayter, A. J. Bundy 1 ..... dry

Hughes County—

26-9-10 Buck, Fuhrman Pet. Co. 1 ..... dry
16-9-9 Oliphant, Catlett & Burke Greis 1 90

Garvin County—

31-1-3w Burr, Magnolia Pet. Corp. 2 ... dry
14-1-3w Cochran, Magnolia Pet. Corp. 3 5

Comanche County—

14-1-12w Wilson, P. Hrbacek & A. E. Korthaus 1 ..... dry

Marshall County—

24-5s-5 Null, E. L. Smith Oil Co. 4 ..... dry
Commerce Trust, Humble O. & R. Co. 2 ..... dry

Noble County—

10-24-1w Plumb, White, Wilson et al 1-A ..... dry
32-20-1w Kidd, Marland Oil Co. et al 1 .. dry

Nowata County—

33-25-17 Verdigris R. L. Co., Phillips & Milam 20 7
28-26-17 Robertson, F. Anderson et al .. 1 10
4-25-17 Halsell, Frieden Bros. et al 2 ... 15
5-28-15 Nave, M. B. Shuffiln 1 1
36-29-14 Putman, E. Putman 1 ..... gas

Washington County—

17-26-13 Toalson, Wellsville Oil Co. 16 .. 3
Toalson, Wellsville Oil Co. 17 3
9- 7-13 Keystone Oil Co. E. M. Fowler 2 .. 5

Rogers County—

1-21-15 Lockwood, M. E. Parrott 3 18
20-24-17 Thomas, Wellsville Oil Co. 11 20
36-24-16 Milam & Leonard, Tidal Oil Co. 3 2

17-24-17 Bowsey et al, E. Van Horn et al 7 ..... Air
Everett, Wellsville Oil Co. 10 ... 2
20-24-17 Thomas, Wellsville Oil Co. 12 ... 10
Thomas, Wellsville Oil Co. 13 ... Air

Tulsa County—

35-19-11 Franklin, Mays & Kayser 1-A .. dry

Wells completed 38
Production 6069
Dry 17
Gas 2
Gas production 800,000

KANSAS FIELDS

Summary of Wells Completed

County—	Comp.	Prod.	Dry	Gas
Butler	12	2,650	2	0
Cowley	5	....	2	3
Chautauqua and Elk	12	729	3	0
Greenwood	8	456	3	2
Marion	8	60	5	0
Miscellaneous	21	2,391	7	2
Total Sept.	66	6,280	22	7
Total Aug.	91	5,140	34	14
Difference	25	1,140	12	7

Summary of Rigs and Wells Drilling

County—	Rigs	Drlg.	Ttl.
Butler	9	29	38
Cowley	9	26	35
Elk	4	20	24
Ellis	4	13	17
Greenwood	3	27	30
McPherson	4	9	13
Marion	2	14	16
Russell	1	9	10
Sumner	6	21	27
Woodson	1	8	9
Miscellaneous	13	67	80
Total Sept.	56	243	299
Total Aug.	58	213	271
Difference	2	30	28

WELLS COMPLETED
BUTLER COUNTY

13-26-4 Bloir, Wichita Pet. Corp. 1 .. dry
3-27-6 Lewis, Davis & Hazlett 7 200
5-27-6 Simpson, Ramsey et al 2 150
6-27-6 Palmer, Mohawk Oil 4 150
Sluss, Garden et al 1-B 250
Palmer, Mohawk Oil 2 600
10-27-6 Marshall, Dixie Oil 3 20
31-26-6 Unger, Tidal & Matthews 1 .... dry
22-27-5 Brandenberger "B" Empire O. & R. Co. 1 30
6-27-6 Sluss, Garden et al 3-A 500
27-27-5 Willits, Empire O. & R. 2 400
6-27-6 Palmer, Mohawk Oil 5 150

Wells completed 12
Production 2650
Dry 2

COWLEY COUNTY

14-32-3 Emke, Roth & Faurot 1 .... dry
19-31-5 Clabough, Barnsdall Oil 1 .... gas
21-30-6 Bice, Earl Wakefield 1 .... dry
22-32-4 Winfield, Roth & Faurot 4 .... gas
32-32-5 Graves, Roth & Faurot 2 .... gas

Wells completed 5
Dry 2
Gas 3
Gas production 3,810,000

CHAUTAUQUA AND ELK COUNTIES

15-31-10 Elstun, Denton & Morrow 1 .. 20
34-32-10 Lennington, Page Oil et al 1 .. 20
25-31-10 Clough, Denman Bros. 1 .... dry
29-31-10 Reichlig, Baudell Drlg. Co. 3 .. 15
29-32-10 Stewart, Craver et al 1 .... dry
9-31-10 Webb, Davis & Hazlett 1 .... dry
10-31-10 Palmer, Odell O. & G. 1 50
20-34- 9 Borroum, Prairie O. & G. 2 25
9-31-10 Shaw, Denton Bros. 1 25
10-31-10 Townsite, Torry & Murfin 1 224
Webb, Sonner Gas 3 100
Armstrong, Sherman et al 1 250

Wells completed 12
Production 729
Dry 3

GREENWOOD COUNTY

6-25- 9 Olson, Murphy et al 5 50
29-22-13 Luthi, Amerada Pet. 2 250
10-25-12 McNall, McGinnis et al 1 .... dry
25-22-12 Ott "A," Empire O. & R. 1 150
18-25-12 Lovitt, E. W. Carney 1 .... dry
29-26- 9 Reece, Henderson & Holden 1 .... gas
4-26-13 Giese, Doak Bros. 1 .... gas
22-27-12 Capps, P. H. Bilyeau 1 .... dry

Wells completed 8
Production 450
Dry 3
Gas 2
Gas production 5,500,000

MARION COUNTY

9-17-4 Faulk, Givens & Hershey 1 20
14-17-4 Faulk, McGinnis & Hershey 1 15
21-17-4 Bevans, Sinclair O. & G. 2 .... dry
22-17-4 Wells, Phillips Pet. Co. 2 .... dry
Wells, Phillips Pet. Co. 3 .... dry
Reznicek, Phillips Pet. Co. 4 .... dry
26-17-4 Hayes, Sinclair O. & G. 1 25
13-17-4 Harwood, Phillips Pet. 2 .... dry

Wells completed 8
Production 60
Dry 5

MISCELLANEOUS COUNTIES

Dickinson County—

23-15-4 Webber, Kansas Oil and Larobb 1 .... dry
33-16-4 Rudy, Watchorn O. & G. 1 .... dry

Harvey County—

11-23-2w Houry, Roxana Pet. 1 .... gas

Coffey County—

8-22-14 Mitchell, Union Gas 1 .... dry

Russell County—

18-12-15w Mermis, Wilcox O. & G. 3 48
31-12-15w Brumgardt, Midwest Explin. 4 175

Rooks County—

11- 9-16w Tatkenhorst, Krueger et al 1 175
23-10-19w Catudal, J. C. Findless et al 1 dry
11- 9-16w Tatkenhorst, Krueger et al 1 175

Sedgwick County—

12-26-1w Wright, Gypsy, Marland et al 1 1700

Sumner County—

16-35-2 Mynes, Fred Morgan et al 1 .... gas

Bourbon County—

36-24-21 Story, Harris et al 1 .... dry
26-23-21 Davis, Fees Bros. 1 8

McPherson County—

21-18-2w Bughman, Derby Oil 1 .... dry

Montgomery County—

20-34-15 Dobson, Conn. O. & M. 9 3
2-34-13 Dunham, J. P. Brady 13 50
17-33-15 McAuiston, Henderson Oil 3 2
32-33-15 Dobson, W. C. Cavert et al 1 20
2-34-13 Dunham, J. P. Brady 14 30
30-33-14 Cummings, Hydraulic Oil 4 .... dry

Anderson County—

9-22-19 Strain, Ralo O. & G. 17 5

Wells completed 21
Production 2391
Dry 7
Gas 2
Gas production 14,000,000

LOUISIANA-ARKANSAS

SUMMARY OF FIELD OPERATIONS
NORTH LOUISIANA

	Comp.	Prod.	Dry	*Gas	Rigs	Drg.	Ttl.
Bienville	0	0	0	0	2	2	
Bossier	4	0	2	2	2	9	11
Caddo	9	160	6	0	1	14	15
Catahoula	0	0	0	0	0	2	2
Claiborne	0	0	0	0	3	1	4
DeSoto	2	0	1	1	2	4	6
East Carroll	0	0	0	0	0	2	2
Franklin	0	0	0	0	0	1	1
Grant	0	0	0	0	1	1	2
LaSalle	1	70	0	0	0	2	2
Madison	0	0	0	0	0	2	2
Morehouse	6	0	3	3	3	7	10
Natchitoches	0	0	0	0	0	1	1
Ouachita	2	0	0	2	3	5	8
Rapides	0	0	0	0	0	2	2
Red River	0	0	0	0	1	1	2
Richland	5	0	4	1	5	5	10
Sabine	2	0	2	0	1	3	4
Tensas	0	0	0	0	0	1	1
Union	2	0	1	1	5	4	9
Webster	8	150	3	2	7	13	20
Winn	1	0	1	0	0	0	0
Total Sept.	40	380	23	12	34	82	116
Total Aug.	46	323	18	22	34	94	128
Difference	6	57	5	10	0	12	12

*Gas production: Bossier, 16,945,000; DeSoto, 1,000,000; Morehouse, 22,500,000; Ouachita, 5,816,000,000; Richland, 23,000,000; Union, 6,000,000; Webster, 2,500,000; total, 77,761,000.

ARKANSAS

	Comp.	Prod.	Dry	*Gas	Rigs	Drg.	Ttl.
Ashley	1	0	1	0	0	3	3
Bradley	1	0	1	0	1	1	2
Chicot	1	0	1	0	0	5	5
Clark	0	0	0	0	0	2	2
Clay	0	0	0	0	0	1	1
Cleveland	0	0	0	0	0	1	1
Columbia	0	0	0	0	2	2	4
Dallas	1	0	1	0	0	0	0
Faulkner	0	0	0	0	0	1	1
Franklin	0	0	0	0	1	0	1
Garland	0	0	0	0	0	1	1
Jackson	0	0	0	0	0	1	1
Johnson	0	0	0	0	0	5	5
Logan	0	0	0	0	0	2	2
Nevada	2	50	0	0	1	5	6
Ouachita	3	86	1	0	0	2	2
Pike	0	0	0	0	0	2	2
Pulaski	0	0	0	0	0	1	1
Union	26	1,438	11	4	22	34	56
Washington	0	0	0	0	0	2	2
White	0	0	0	0	0	1	1
Woodruff	0	0	0	0	0	1	1
Total Sept.	35	1,574	16	4	27	73	100
Total Aug.	71	5,350	37	8	31	93	124
Difference	36	3,756	21	4	4	20	24

*Gas production 107,000,000.

NORTH LOUISIANA

WELLS COMPLETED
BOSSIER PARISH

36-16-12 Van Koose, Arkansas Natural Gas Corp. .... gas
1-22-14 Albritton & Douglas, Bruton et al 1 .... dry
15-18-12 Stewart, Wm. Gross et al 1 .. dry
24-17-12 Jeter, Palmer Corp. 1 .... gas

Gas production 16,945,000

CADDO PARISH

33-22-16 Posey, W. T. Bell 4 .... dry
13-21-15 Dillon, Dixie Oil Co. 95 20
8-21-15 Louisiana Livestock Co. Haynes Brothers 3 .... dry
8-17-16 Bryson, Magnolia Pet. Co. 2 .. dry
22-21-15 D. H. Raines, Magnolia Pet. Co. 26 40
15-20-15 Hunsicker, Simplex Oil Co. 6 .. dry
32-21-15 Etchison, Shreveport Oil Corp. 1 100
23-21-15 Caddo Mineral Lands, The Texas Company 47 .... dry
9-14-16 Ben Hines, Tubbs et al 1 .... dry

Wells completed 9
Production 160
Dry 6

DE SOTO PARISH

14-12-12 Clanton, Louisiana Public Utilities Co. 1 .... dry
22-12-12 Williams, Louisiana Public Utilities Co. 1 .... gas

Gas production 1,000,000

LA SALLE PARISH

7-10-2e Urania, H. L. Hunt, 7-B 70

MOREHOUSE PARISH

7-13-6 Ches Wymona, Gulf Ref. 1-A .. dry
18-20-5 Bowles, J. S. Herkness 4 .... gas
12-20-4 Patton, Natural Gas Prod. Co. 1 .... gas
9-20-4 Tensas Delta, Southern Carbon Co., 5 .... gas
36-23-7 Huff, The Texas Company 1 .... dry
15-22-7 Myers, The Texas Company 1 .. dry

Wells completed 6
Gas 3
Gas production 22,500,000
Dry 3

OUACHITA PARISH

6-18-4 Cole, Jordan Drilling Co., 2 .... gas
24-19-4 Slaughter, Union Consumers Gas & Producing Co. 1 .... gas

Gas production 5,816,000

RICHLAND PARISH

17-16-6 McCoy, Sam Hunter, 2-B .... gas
30-16-6 Sartor, Natural Gas & Fuel Corp (Ark. Nat. Gas Corp.) 3-B (Drk) .... abd
18-16-6 Sartor, Natural Gas & Fuel Corp. 4-B (Drk) .... abd
11-15-5 Hatch Heirs, Oliver & Masters 1 .... dry
2-15-5 Morrison, Oliver & Masters 1 .. dry

Gas production 23,000,000

SABINE PARISH

15- 7-14 Mansfield Lumber Co., R. L. Gay 1 (formerly E. M. Emlet 7 Bowman) .... dry
8-17-13 Sabine Lumber Co. Zwolle Oil & Gas Co. 1 (formerly E. M. Emlet) (Drk) .... abd

UNION PARISH

6-23-1e Security Trust, Carter & Winnfield .... dry
5-21-4 Hale, Natural Gas Prod. Co. 1 gas

Gas production 6,000,000

WEBSTER PARISH

35-23-11 L. & A., Arkansas Natural Gas Corp. 1 .... abd
15-21-10 Cox, Dixie Oil Co. 1 .... dry
32-22- 9 Mitchell, Virgil Helm, 1 .... gas
21-21-10 Crichton, Louisiana Oil Refining Corp. 5 .... gas
2-22-11 T. C. Cook, Magnolia Pet. Co. 1 150
21-21-10 Coyle, Magnolia Pet. Co. 2 .... dry

Wells completed 6
Production 150
Gas 2
Gas production 2,500,000
Dry 3

WINN PARISH

9-11-4w L. & A., Colvin Oil & Gas Co. 2 .... dry

ARKANSAS

WELLS COMPLETED
ASHLEY COUNTY

32-16-4 C. L. Gay, The Texas Company 1 .... dry

BRADLEY COUNTY

15-16-10 Southern Lumber Co., Ohio Oil Co., 1 .... dry

CHICOT COUNTY

9-19-3 Lytle, Sam Hunter 1 .... dry

DALLAS COUNTY

20-10-13 Hillman, Decman et al 1 .... dry

NEVADA COUNTY

1-14-21 Groves, Humble Oil & Refining Co., 4-C 40
1-14-21 Moss, J. J. O'Brian, 17-A 10

OUACHITA COUNTY

24-15-16 Primm, Little Fay Oil Co. 1 25
27-13-17 Carnes, Timberlake et al 1 .... dry
4-16-16 Umstead, Woodley Pet. Co. 4 .. 61

UNION COUNTY

8-17-14 J. M. Dumas, Clark & Richardson .... dry
3-19-12 Dopson, H. L. Hunt 1 .... dry
10-17-14 J. D. Gregory, H. L. Hunt 12 .. dry
10-17-14 E. F. Gregory, E. C. Johnson et al 1 5
16-17-14 Sinclair, Lion Oil Refining Corp. 3 .... gas
11-17-13 Stegall, Lyall et al 1 .... dry
10-17-14 Townsend, Magna Prod. Co. 5 .. 150
*1-17-14 Carroll, Magnolia Pet. Co. 4 .. 30
3-17-14 Slade, Marr & Hooser 2 .... dry
3-17-14 Slade, Marr & Hooser 3 60
18-18-11 Pagan, J. O. Moore et al 1 .... dry
10-17-14 J. M. Gregory, C. E. Murdock 5 15
23-19-15 Hale, R. J. McMurray 1 .... dry
6-17-13 Carroll, Ohio Oil Co. 1 .... dry
12-17-14 Furlpugh, Ohio Oil Co. 1 .... gas
6-17-13 Goode, Ohio Oil Co. 1 acct 2 .. 225
1-17-14 R. A. B. Smith, Ohio Oil Co. 2 dry
3-17-14 Slade, Oilwell Corp. 1 118
3-17-14 Slade, Oilwell Corp. 2 125
14-17-14 Rowland, O. W. Estes 4 200
9-17-14 Kelly, Reliance Drilling Co. 1 .. gas
10-17-14 Pardus, Rovenger 3 .... dry
3-17-14 Slade, Skelly Oil Co. 1 135
16-17-14 Schmidt, The Sun Co. .... gas
16-17-14 Schmidt, The Sun Co. 2 375
16-17-14 Schmidt, The Sun Co. 3 .... dry

*With 2,000,000 gas.

Wells completed 26
Production 1438
Gas 4
Gas production 107,000,000
Dry 11

EAST CENTRAL TEXAS

SUMMARY OF FIELD OPERATIONS

	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
Anderson	4	472	2	0	2	6	8
Angelina	0	0	0	0	0	2	2
Cherokee	1	0	1	0	0	1	1
Falls	1	0	1	0	0	0	0
Henderson	2	0	2	0	0	0	0
Limestone	2	0	2	0	1	1	2
Navarro	1	0	1	0	0	1	1
Rusk	1	0	1	0	0	2	2
Smith	0	0	0	0	0	1	1
Upshur	0	0	0	0	0	1	1
Total Sept.	12	472	10	0	3	15	18
Total Aug.	12	2,160	10	1	1	16	17
Difference	0	1,688	0	1	2	1	1

WELLS COMPLETED
ANDERSON COUNTY

Boggy Creek, Lizzie Smith, Humble Oil & Refining Co. 1 400
Boggy Creek, J. C. Hall, Humble Oil & Refining Co. 1 .... abd
Boggy Creek, Peter Holloway, Humble Oil & Refining Co. 1 72
Bethel, Bruce, Pure Oil Co. 1 .... abd

Wells completed 4
Production 472
Abandoned 2

CHEROKEE COUNTY

Boggy Creek, Weinberg, Humble Oil & Refining Co. 1 .... abd

FALLS COUNTY

St. Clair, R. H. Heflin 1 .... abd

HENDERSON COUNTY

Tarkington, The Texas Co.-F. Haynes 1 .... abd
Schoelkopf, McElreath & Suggett 1 .... abd

Wells completed 2
Production 6
Abandoned 2

LIMESTONE COUNTY

Ward, Killan et al 1 .... abd
Stroud, Hicks & Deering 1 .... abd

Wells completed 2
Abandoned 2

NAVARRO COUNTY

Hamilton, O'Bryne et al 1 .... abd

RUSK COUNTY

Goodwin, The Texas Company 1 .... abd

EAST TEXAS

Summary of Field Operations

	Comp.	Prod.	Dry	*Gas	Rigs	Drg.	Ttl.
Cass	1	0	1	0	0	1	1
Harrison	0	0	0	0	1	2	3
Panola	7	6	2	4	2	3	5
Shelby	0	0	0	0	1	1	2
Total Sept.	8	6	3	4	4	7	11
Total Aug.	13	10	6	6	4	5	9
Difference	5	4	3	2	0	2	2

*Gas production 11,116,000.

CASS COUNTY

W. F. Young Survey; John Burleson, Davis & Pigg 1 .... dry

PANOLA COUNTY

B. C. Jordan Survey; T. C. Adams; Arkansas Natural Gas Corp. 1 .... gas
James Storey Survey; Werner Sawmill Co.; Bethany Oil & Gas Co. 4 .... dry
B. Blankenship Survey; Thompson, Hughes et al 1 .... dry
E. Jones Survey; Adams; Kirby Rowe Drilling Co. 1 .... gas
J. Womack Survey; Baptist Church, Magnolia Pet. Co. 1 6
Evans Brackins Survey; G. W. Brumble, The Texas Company, 6 .... gas
B. C. Jordan Survey; Crenshaw, D. Thomason 10 .... gas

Wells completed 7
Production 6
Gas 4
Gas production 11,116,000
Dry 2

SOUTHWEST TEXAS

Summary of Field Operations

	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
Mirando	33	5,475	13	6	10	30	46
Luling	3	30	2	0	1	4	5
Dale	0	0	0	0	0	3	3
Joe Bruner	3	135	1	0	3	9	12
Roxana-Larremore	6	750	0	0	2	1	3
Somerset	1	8	0	0	0	0	6
Refugio	5	0	2	3	2	10	12
Kingsville	3	0	2	1	1	1	2
White Point	1	0	0	1	0	2	2
Miscellaneous	19	18	12	4	14	85	99
Total Sept.	74	6,406	31	15	33	145	178
Total Aug.	60	4,190	22	12	34	153	187
Difference	14	2,216	9	3	1	8	9

WELLS COMPLETED
DRISCOLL GAS FIELD—DUVAL

Robert Driscoll 12 .... gas

DOLE GAS FIELD

T. P. Morgan 3 .... abd
T. P. Morgan 2 .... abd

WILDCATS

National Oil Co. 1 .... abd

RANDADO FIELD—JIM HOGG

American Well &. Prod. Co. 24 150
Magnolia Petroleum 39 .... abd

HENNE-WINCH & FARISS POOL

Edward St. Albans 4 .... abd

WILDCATS

Holden and others 3 .... abd

ALBERCAS FIELD—WEBB

Sun Oil Co. A-2 1400
Magnolia Petroleum 9 550
Magnolia Petroleum 8 100
Magnolia Petroleum 7 .... gas
Sun Oil Co. B-2 3000
Magnolia Petroleum 8 75
Houston Oil 3 .... gas
O. W. Killam 22 100
O. W. Killam 21 100
O. W. Killam 19 .... abd
Newton Drilling 3 .... abd

MAGNOLIA—COLE FIELD

Houston Oil D-12 50
Houston Oil-Cole E-3 417
Magnolia Petroleum 9 .... gas
Houston Oil F-2 150
Houston Oil D-11 .... gas
Cole Petroleum 64 100
Houston Oil D-10 50

WILDCATS

R. M. Sturm 1 .... abd
Herbert Morgan 1 .... abd
Harry L. Fansler 1 .... abd

STARR COUNTY

The Texas Company 1 .... abd
J. V. McAleese and others 1 .... abd

CHARCO REDONDO—ZAPATA

W. R. Duke B-2 .... gas

JENNINGS

O. W. Killam 1 150

Wells completed 33
Oil wells completed 14
Gas wells completed 6
Dry and abandoned 13
Oil production (initial 5,47
Gas production (init ab) 165,000,000

LULING FIELD

Magnolia Petroleum 1 .... abd
Magnolia Petroleum 7 .... abd
Magnolia Petroleum 2 30

Wells completed 3
Dry and abandoned 2
Oil production 30

JOE BRUNER FIELD

Lu-Tex Oil Inc. 2 27
T. C. Hadley 1 .... abd
Golden West Oil 2 100

Wells completed 3
Abandoned 1
Oil production 125

ROXANA-LARREMORE FIELD

Roxana Pet. Corp. 1 175
Roxana Pet. Corp. 2 150

Roxana Pet. Corp. 1 75
Roxana Pet. Corp. 3 150
Cranfill & Reynolds 2 50
Cranfill & Reynolds 3 150

Wells completed 6
Oil wells completed 6
Oil production 750

SOMERSET FIELD

Witherspoon Oil Co. 3 8

KINGSVILLE FIELD

Humble Oil & Ref. 2 ..... gas
Humble Oil & Ref. 7 ..... abd
Houston Oil Co. 1 ..... abd

Wells completed 3
Dry and abandoned 2
Gas production 25,000,000

REFUGIO FIELD

Houston Gulf Gas 1 ..... abd
Pat Rutherford 2 ..... abd
Houston Oil 2 ..... gas
Houston Gulf Gas 1 ..... gas
Houston Oil Co. ..... gas

Wells completed 5
Gas wells completed 3
Dry and abandoned 2
Gas production 120,000,000

WHITE POINT FIELD

Carter-Spencer & Rhoades 1 ..... gas

MISCELLANEOUS

Bastrop County—
Johnson Bros. Wright 1 ..... abd
Gulf Production, Jones 1 ..... abd
Bexar County—
Larsen-Walsh-Dixie Oil, Oppenheimer 2 10
F. H. Eckert, Dobrowolski 1 8
C. J. LeCompte, Diaz 2 ..... abd
Caldwell County—
United States Gas & Oil, Lipscomb 1.. abd
Townsend-Whittington, Harper 1 .... abd
W. B. Kennon et al, Schawe 1 ..... a d
J. J. Cody, Brisco 1 ..... abd
Frio County—
Donaldson Oil Development, Brown 1.. abd
Jackson County—
Wright Bros., Drushel 6 ..... gas
Maverick County—
Rycade Oil Co., Chittim 1 ..... abd
McMullen County—
Houston Gulf Gas, Jacob 6 ..... abd
Nueces County—
Saxet Oil Co., Walton 1 ..... gas
Grimm & Morris, Garrett 1 ..... gas
Texas Company, State 1 ..... abd
Victoria County—
Humble Oil & Ref., Norton 1 ..... gas
Houston Oil Co., Kyle 1 ..... abd
Travis County—
Rydal Oil Corp., Republic B. & T. 1... abd

Wells completed 19
Oil wells completed 2
Gas wells completed 4
Dry and abandoned 13
Oil production 18
Gas production 150,000,000

GULF COAST FIELDS

Texas

SUMMARY OF FIELD OPERATIONS

	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
Barbers Hill.	0	0	0	0	0	1	1
Batson	4	38	0	0	2	1	3
Big Creek ...	1	1,500	0	0	0	3	3
Blue Ridge ..	9	3,450	3	0	0	15	15
Boling*	7	1,840	2	0	2	10	12
Damon Mound	0	0	0	0	0	1	1
Goose Creek .	2	50	1	0	0	4	4
High Island..	1	650	0	0	0	4	4
Hull	6	5,410	1	0	0	9	9
Humble	0	0	0	0	1	5	6
Liberty	5	197	2	0	0	3	3
Markham	1	30	0	0	0	1	1
Nash	1	0	1	0	0	5	5
Orchard	1	0	1	0	0	2	2
Orange	5	132	1	0	0	7	7
Pierce Jctn. .	7	3,314	4	0	1	10	11
Raccoon Bend	2	4,445	0	0	1	3	4
Saratoga	2	45	0	0	0	3	3
Sour Lake ...	1	9	0	0	0	1	1
Spindletop ...	17	8,803	7	0	0	18	18
Sugarland (DeWalt) .	2	100	1	0	0	3	3
Miscellaneous.	8	150	6	1	4	34	38
Total Sept. 1	82	30,163	30	1	11	143	154
Total Aug. 1	98	21,125	33	2	15	121	136
Difference .	16	9,038	3	1	4	22	18

*Nineteen wells were drilled for sulphur which are not recorded.

Louisiana

SUMMARY OF FIELD OPERATIONS

	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
Atchafalaya ..	3	103	2	0	0	1	1
Anse La Butte	1	0	1	0	0	1	1
Edgerly	2	5	0	0	0	3	3
Hackberry	5	1,700	4	0	0	5	5
Jennings	2	0	2	0	2	4	6
Lockport	2	250	0	0	0	7	7
Starks	2	1,650	1	0	1	2	3
Sorrento	1	0	1	0	1	0	1
Sulphur	4	2,000	3	0	0	4	4
Sweet Lake ...	1	0	1	0	0	1	1
Vinton	3	10	2	0	0	4	4
Miscellaneous..	12	0	12	0	5	14	19
Total Sept. 1.	38	5,718	30	0	9	46	55
Total Aug. 1.	30	8,808	15	0	8	46	54
Difference ..	8	3,090	15	0	1	0	1
Total Gulf Coast ...	139	35,881	79	1	20	189	209
Total Aug..	128	29,933	48	2	23	173	196
Difference .	11	5,948	31	1	3	16	13

WELLS COMPLETED

TEXAS

BATSON—HARDIN COUNTY

Donoho & Cashen, East Batson Oil 10.. 20
Knight, Gulf Production Co. 17 10
Knight Fee, Gulf Production Co. 18 5
Paraffine, Paraffine Oil Co. 77 3

Wells completed 4
Production 38

BIG CREEK—FORT BEND COUNTY

Davis, Gulf Production Co. 47 1500

BOLING—FORT BEND COUNTY & WHARTON COUNTY

E. C. Farmer, Gulf Production Co. 1..1000
Bay, Gulf Production Co. 4..... 10
Plumb, Miller et al 1 ..... abd
E. C. Farmer, Sun Oil Co. 3 ..... abd
Taylor, Vacuum Oil Co. 1 600
Bay, Weed-Gayle Oil Co. 24 100
Bay, Weed-Gayle Oil Co. 25 130

Wells completed 7
Production 1840
Abandoned 2

BLUE RIDGE—FORT BEND COUNTY

Robinson, J. S. Abercrombie & Co. 4... abd
Blakely, (Tract E) Fort Bend Oil Co. 1-C ..... abd
Blakely, Fort Bend Oil Co. 4-C 500
Blakely, Gulf Production Co. 14-B 950
West Schenk, Moody Corp. 2 500
Robinson, Navarro Oil Co. 1-B 1000
Davidson, Sinclair Oil & Gas Co. 2..... 700
Davidson, South Texas Producing Co. 2 500
Blakely, Watts Brothers Oil Co. 7 ... a d

Wells completed 9
Production 4150
Abandoned 3

GOOSE CREEK—HARRIS COUNTY

Gaillard, Humble Oil & Refining Co. 24 50
Simms, Smith, Humble Oil & Refining Co. 73 ..... abd

Wells completed 2
Production 50
Abandoned 1

HIGH ISLAND—GALVESTON COUNTY

Cade, McLean Oil Co. 12 650

HULL—LIBERTY COUNTY

Stovall, Big Six Oil Co. 1 ..... abd
Phoenix, Gulf Production Co. 89 340
Dolbear, Republic Production Co. 86...2500
Dolbear, Republic Production Co. 107..2500
Dolbear, Republic Production Co. 110.. 70

Wells completed 5
Production 5410
Abandoned 1

LIBERTY—LIBERTY COUNTY

F. Antoine, Gulf Prod. Co. 1..... abd
Welder, Humble Oil & Refining Co. 8.. abd
Mitchell, Sun Oil Co. 7 87
Turner, Liberty Petroleum Co. 1..... 10
Mitchell, Yount Lee Oil Co. 9 100

Wells completed 5
Production 197
Abandoned 2

MARKHAM—MATAGORDA COUNTY

J. W. Hawk, West Production Co. 1.. 30

NASH—FORT BEND COUNTY

Wisdom, Rycade Oil Corp. 10 ..... abd

ORCHARD—FORT BEND COUNTY

Moore, Gulf Production Co. 6..... abd

ORANGE—ORANGE COUNTY

McLean, Brownie Babbett Oil Co. 6 ... 40
Gallier, Sinclair Oil & Gas Co. 4 11
Gunstream, Sun Oil Co. 3 11
State, L. J. Tillery Oil Co. 4 ..... abd
State, Rycade Oil Corp. 6-A 70

Wells completed 5
Production 132
Abandoned 1

PIERCE JUNCTION—HARRIS COUNTY

Ritter, Abercrombie & Harrison 2 3164
H. M. Perry, Gulf Production Co. 1 ... 50
Taylor, Gulf Production Co. 25 ..... abd
Hume, (Reid), Moody Corp. 3 100
Settegast, Moody Corp. 3 ..... abd
Dooley, Navarro Oil Co. 12 ..... abd
Fitzsimmons, Shaw et al 1-C ..... abd

Wells completed 7
Production 3314
Abandoned 4

RACCOON BEND—AUSTIN COUNTY

Bracey, Humble Oil & Refining Co. 1 ... 445
Cotosky, Humble O. & R. Co. 3.....4000

Wells completed 2
Production 4445

SARATOGA—HARDIN COUNTY

Jordit, Rio Bravo Oil Co. 84 20
Kirby, Weldon Oil Co. 7 25

Wells completed 2
Production 45

SOUR LAKE—HARDIN COUNTY

Coplin, Eunice & Carpenter 1 ..... abd
Moore, H. T. Terry 8 9

Wells completed 2
Production 9
Abandoned 1

SPINDLETOP—JEFFERSON COUNTY

Gladys City, Gulf Production Co. 195.. 20
McFaddin, Unity Petroleum Co. 97 35
Fee, Yount Lee Oil Co. 6 ..... abd
Fee, Yount Lee Oil Co. 9 550
Fee, Yount Lee Oil Co. 10 ..... a d
Gladys City, Yount Lee Oil Co. 11 ..... abd
Gladys City, Yount Lee Oil Co. 28 98
Gladys City, Yount Lee Oil Co. 65 ..... abd
Gladys City, Yount Lee Oil Co. 68 1000
Gladys City, Yount Lee Oil Co. 69 ..... abd
McFaddin, Yount Lee Oil Co. 23 1200
McFaddin, Yount Lee Oil Co. 45 ..... abd
McFaddin, Yount Lee Oil Co. 52 900
McFaddin, Yount Lee Oil Co. 54 1000
McFaddin, Yount Lee Oil Co. 78 ..... abd
McFaddin, Yount Lee Oil Co. 79 2000
McFaddin, Yount Lee Oil Co. 80 2000

Wells completed 17
Production 8803
Abandoned 7

SUGARLAND—FORT BEND COUNTY

Deatherage, Humble Oil & Refg. Co. 1 abd
Sugarland, Humble Oil & Refg. Co. 2.. 100

Wells completed 2
Production 100
Abandoned 1

MISCELLANEOUS—TEXAS

Brazoria County —
Muldoon, Rucks et al 3 ..... abd
Colorado County—
Wallis, Rich Oil Corp. 1 ..... abd
Harris County—
Cook, Moody Corp. 1 ..... abd
Jefferson County—
Fanette-Bordages, Gulf Prod. 6-A..... 150
Jackson County—
Drushell, Wright Brothers 6 ..... gas
Liberty County—
Moss Bluff, R. S. Sterling, Humble Oil & Refining Co. 2 ..... abd
Christian, Tan Bay Oil Co. 1 ..... abd
Matagorda County—
Baer, Griffith et al 1 ..... abd

Wells completed 8
Production 150
Abandoned 6
Gas 1
Gas production 35,000,000

WELLS COMPLETED

LOUISIANA

ATCHAFALAYA—ST. MARTIN PARISH

Martin, Rycade Oil Corp. 1 ..... abd
State, Rycade Oil Corp. 2 103
Bouillon, Rycade Oil Corp. 3 ..... abd

Wells completed 3
Production 103
Abandoned 1

ANSE LA BUTTE—ST. MARTIN PARISH

Louisiana Pet. Co., Yount Lee Oil Co. 2 abd.

EDGERLY—CALCASIEU PARISH

Reed, Edwards Oil Co. 1 5
Hunter, Rex Petroleum Co. 7 ..... abd

Wells completed 2
Production 5
Abandoned 1

HACKBERRY—CAMERON PARISH

Watkins, Calcasieu Oil Co. 9 1700
Watkins, Calcasieu Oil Co. 11 ..... abd
Ellender, Noble Oil & Gas Co. 2 ..... abd
Kelso Bayou, Yount Lee Oil Co. 14 .... abd
Kelso Bayou, Yount Lee Oil Co. 16 .... abd

Well completed 5
Production 1700
Abandoned 4

JENNINGS—ACADIA PARISH

Conklin, Eunice-Welsh Oil Co. 1 ..... abd
Crowley, Yount Lee Oil Co. 2 ..... abd

Wells completed 2
Production 0
Abandoned 2

LOCKPORT—CALCASIEU PARISH

Miller, Vacuum & Gulf 6 75
State, (Bayou D'Inde), Vacuum-Gulf 1 175

Wells completed 2
Production 250

STARKS—CALCASIEU PARISH

Lutcher-Moore, Gulf Refining Co. 9 ... abd
Lutcher-Moore, Gulf Refining Co. 10 ...1650

Wells completed 2
Production 1650
Abandoned 1

SORRENTO—ASCENSION PARISH

United Land Co., Gulf Refg. Co. 9 ..... abd

SULPHUR DOME—CALCASIEU PARISH

Fee, Union Sulphur Co. 721 ..... abd
Fee, Union Sulphur Co. 728 ..... abd
Fee, Union Sulphur Co. 732 2000
Kelly, Union Sulphur Co. 1 ..... a d

Wells completed 4
Production 2000
Abandoned 3

SWEET LAKE—CAMERON PARISH

Yount Lee, Texure Oil Co. 3 ..... abd

VINTON—CALCASIEU PARISH

Star Vincent, Gulf Refining Co. 46 .... abd
Harmony, Vinton Pet. Co. 15 10
Harmony, Vinton Pet. Co. 16 ..... abd

Wells completed 3
Production 10
Abandoned 2

MISCELLANEOUS LOUISIANA

Ascension Parish—
Tracy (J. D.), Triumph Oil Corp. 1 ... abd
Cameron Parish—
Calcasieu Lake, La., Land & Exploration Co. A-2 ..... abd
East Baton Rouge Parish—
Tucker, Capitol Oil Co. 1 ..... abd
Evangeline Parish—
Pine Prairie, Ducide Guillery, Tom Hiney et al 1 ..... abd
Iberia Parish—
Lorcauville-State, Gulf Refg. Co. 5-Z .. abd
Livingston Parish—
Dalton (Jules Aydell) Bayou Development Co. Inc. 1 ..... abd
St. Landry Parish—
Brown, August E. Borsum et al 1 .... abd
Tangiphohoa Parish—
Weinberger, Amite Drilling Co. 1 .... abd
Kent Realty Co., Kentwood Oil Co. 1 .. abd
Vermillion Parish—
Marceaux, Paul Briandt 1 ..... abd
West Baton Rouge Parish—
Wilbert, Grosse Tete Oil & Gas Co. 1 .. abd

Wells completed 12
Production 0
Abandoned 12

KENTUCKY-TENNESSEE

SUMMARY OF FIELD OPERATIONS

	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
Warren	1	6	0	0	0	5	5
Allen	5	8	2	0	0	7	7
Barren	0	0	0	0	0	9	9
Ohio	64	1,920	21	2	4	48	52
Daviess	32	1,289	7	1	5	42	47
McLean	2	15	1	0	0	3	3
Webster	0	0	0	0	0	2	2
Hancock ...	0	0	0	0	0	6	6
Henderson-Union	0	0	0	0	0	4	4
Breckenridge	5	80	1	0	0	2	2
Simpson	0	0	0	0	0	1	1
Muhlenburg..	0	0	0	0	1	1	2
Butler	1	20	0	0	1	2	3
Hopkins	0	0	0	0	0	10	10
Meade	2	20	0	0	0	1	1
Cumberland-Monroe ...	0	0	0	0	0	1	1
Caldwell ...	0	0	0	0	0	1	1
Trigg	0	0	0	0	0	1	1
Christian ...	0	0	0	0	3	2	5
Wayne	4	12	1	0	0	5	5
Estill	6	9	1	0	0	6	6
Powell	0	0	0	0	0	1	1
Wolfe	2	5	1	0	0	1	1
Johnson-Magoffin .	2	6	0	0	1	3	4
Morgan	1	0	1	0	0	0	0
Floyd-Knott.	1	0	0	1	0	1	1
Elliott	1	0	1	0	0	0	0
Knox	1	0	1	0	0	4	4
Clay	0	0	0	0	1	1	2
Total Sept.	130	3,390	38	4	16	170	186
Total Aug.	130	2,903	45	5	13	164	177
Difference	0	487	7	1	3	6	9

TENNESSEE

SUMMARY OF FIELD OPERATIONS

	Comp.	Prod.	Dry	Rigs	Drg	Ttl
Clay	5	165	0	2	11	13
Jackson	0	0	0	0	3	3
Marshall	0	0	0	1	0	1
Decatur	0	0	0	1	0	1
Total Sept. ..	5	165	0	4	14	18
Total Aug. ..	2	450	0	4	12	16
Difference ...	3	285	0	0	2	2

MISSISSIPPI

SUMMARY OF FIELD OPERATIONS

	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
Alcorn	0	0	0	0	0	1	1
Calhoun	0	0	0	0	0	1	1
Chickasaw ..	0	0	0	0	0	1	1
Claiborne ..	0	0	0	0	0	2	2
Hines	0	0	0	0	0	1	1
Issaquena ..	0	0	0	0	0	1	1
Jackson	0	0	0	0	0	1	1
Jasper	0	0	0	0	0	1	1
Lauderdale ..	0	0	0	0	0	1	1
Lee	0	0	0	0	0	1	1
Monroe	0	0	0	0	0	6	6
Rankin	0	0	0	0	0	1	1
Simpson	0	0	0	0	0	1	1
Stone	0	0	0	0	0	1	1
Washington .	0	0	0	0	0	1	1
Webster	0	0	0	0	0	1	1
Total Sept.	0	0	0	0	0	22	22

ALABAMA

SUMMARY OF FIELD OPERATIONS

	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
Houston	0	0	0	0	0	1	1
Lawrence ..	0	0	0	0	0	2	2
Marion	0	0	0	0	1	1	1
Total Sept.	0	0	0	0	0	4	4

WELLS COMPLETED

KENTUCKY

WARREN COUNTY

Bowling Green—L. E. Porter, P. H. Lavelle 2 6

ALLEN COUNTY

Scottsville—E. H. Woods, Mid-Southern Oil 25 2
B. R. Freeman, A. K. Parsons 6 ..... dry
P. Welch, Harley & Coatsworth 1 ..... dry
Jim Williams, J. D. White 3 5
Jim Williams, J. D. White 4 1

Wells completed 5
Production 8
Dry 2

OHIO COUNTY

Hartford—Chas. Roach, Ohio Oil 22.. 5
Chas. Roach, Ohio Oil 3 10
Chas. Roach, Ohio Oil 4 60
W. B. Kelley, Ohio Oil 2 100
Whittaker heirs, Ohio Oil 3 15
J. C. Ellis, Ohio Oil 16 80
Jane Daniels 30, J. C. Ellis 13 100
J. R. Weller, J. C. Ellis 31 60
J. R. Weller, J. C. Ellis 32 50
J. R. Weller, J. C. Ellis 33 40
B. L. Gossett, J. C. Ellis 4 100
B. L. Gossett, J. C. Ellis 5 100
Mary Cundiff, J. C. Ellis 3 60
Mary Cundiff, J. C. Ellis 4 80
C. R. Keith, J. C. Ellis 7 100
Griffith heirs, J. C. Ellis 7 50
Ada Kelley, White Plains O. & G. 2.. 50
C. A. Kelley, White Plains O. & G. 5.. 20
Kelly heirs, J. M. Meredith & Co. 4.. 20
Kelly heirs, J. M. Meredith & Co. 5.. 30
Alva Kelley, S. H. Russell & Co. 1.... dry
Brown heirs, S. H. Russell 1 15
Slate Ripple, Fred Weir & Co. 1..... gas
Chapman-Birkhead, Wittmer O. & G. 1 dry
Chas. McKinley, Whitehill & Reich 1. dry
Minton, Eastern Gulf Oil 1 ..... dry
Bob Hamilton, Daley & Lowman 8 60
Bob Hamilton, Daley & Lowman 9 70
Urey Howard, White Plains O. & G. 5 dry
Gil Farmer, H. B. Cameron & Co. 1... 20
Gil Farmer, H. B. Cameron & Co. 2... dry
Gil Farmer, H. B. Cameron & Co. 3... 20
Hill Rhodes, Dugherty & Co. 4 50
Nancy Farmer, S. J. Stirmans 2 25
Ed Hendricks, Bigler & Becker 3..... 20
Ed Hendricks, Bigler & Becker 4..... 20
Unknown, Unknown near Arnold 1.. dry
Wayne Boswell, Dr. Lang & Co. 1.. dry
R. M. Miller, Dearborn Oil 2 20
Hill Rhodes, Dugherty & Co. 9..... 100
Hill Rhodes, Daugherty & Co. 10.. 100
Ollie Ezell, Young & Lee 8 ..... dry
Cora Wells, Mecca Oil 16 150
Wm. Smith, Wood Oil 1 ..... dry
Emmett Park, Wood Oil 1 ..... dry
J. E. Mitchell, Wood Oil 4 10
B. E. Reynolds, Wood Oil 1 ..... gas
Bob Hamilton, Cumberland Pet. 14.. dry
Jodie Hamilton, Fred Botts & Co. 1.. dry
J. E. Maden, Randolph & Co. 5 ..... dry
M. E. Wilson, Boston-Southwestern Oil & Gas 8 ..... dry
D. Westerfield, Creek Drilling 4 15
Will Haynes, C. E. Daugherty & Co. 2 10
O. Westerfield & T. Bolling & Co. 1 .. 30
Wm. Wade, Cla[illegible] & Co. 2 10
Ira Gray, Sunnydale [illegible] Gas 2..... dry
J. D. Miller, Carden & Bell 1 ..... dry
Vaughan, W. B. Lindsay & Co. 1.. dry
First National Bank, Penn-Indiana Oil 1 15
P. M. Taylor, Radure & Richenbrode 2 25
Tom Hamilton, Chester Oil 1 ..... dry
J. R. Ellis, Snowden & McSweeney 8.. dry
J. R. Ellis, Snowden & McSweeney 9.. 5
J. L. Sennitt, Rex-Pyramid Oil 5 ..... dry

Wells completed 64
Production 1920
Dry 21
Gas 2

DAVIESS COUNTY

Owensboro—J. W. Tompkins, Creek Drilling 7 200
J. W. Tompkins, Creek Drilling 8..... 75
Pete Mahloskey, Leeper Oil 6 200
Lawrence Roby, Ohio Oil 8..... dry
Lawrence Roby, Ohio Oil 9 30
Yeiser 65 acres, L. C. Young 2 150

Louis Petrie, C. Taber Johnson 4 20
Louis Petrie, C. Taber Johnson 5 16
Louis Petrie, C. Taber Johnson 6 ..... dry
Dick Johnson, Pet. Exploration 1 ..... dry
C. M. Jones, L. S. Clough & Co. 4 5
Mattingley, Kipp Oil & Gas 20
Walt Hinton, M. B. French & Co. 2 10
John Fuqua, Gray, McMahan & Co. 1 25
Hazel Miller Aud, D. T. Bolling 3 ..... dry
A. Rodgers heirs, Pratt Bros. 2 30
A. Rodgers heirs, Pratt Bros. 3 5
Robt. L. Sands, L. C. Young 3 18
Oscar Wells, Smith, Randolph & Co. 2 160
E. L. Burns, Pet. Development 1 75
Salem Daviess, C. E. Daugherty & Co. 1 10
Dunn, Eastern Gulf Oil 1 ..... dry
Cooper, Lyle & Co. 1 50
E. L. Baird, Wade & Moore 1 50
Merritt Sands, Young & Co. 2 20
John Roby, F. J. Birk 3 ..... dry
Howard, Jess Watts & Co. 2 75
Frank Miles, Thompson & Tremor 1 5
Shiveley, Wittmer Oil & Gas 1 ..... gas
W. H. Coy, Kelsey Oil 1 ..... dry
Emma Hite, Ronhouser & Co. 1 ..... dry
L. R. Howard, M. B. French & Co. 1 15

Wells completed 32
Production 1289
Dry 7
Gas 1

McLean County

Calhoun—John Ratliff, Dimmick Bros. 3 ..... dry
Sam England, Mecca Oil 1 15

Wells completed 2
Production 15
Dry 1

BRECKENRIDGE COUNTY

Glendean—Glen Moorman, Henshaw & Co. 1 5
Glen Moorman, Henshaw & Co. 2 10
Glen Moorman, Henshaw & Co. 3 60
Johnson, Unknown 1 5
Robinson, McClintock, Reid & Co. 1 ..... dry

Wells completed 5
Production 80
Dry 1

MEADE COUNTY

Weldon—Stan Ellis, Mossman Bros. & Co. 2 10
Unknown, Louisville Gas & Electric 1 10

Wells completed 2
Production 20

WAYNE COUNTY

District 3—Foster heirs, John Dillon 2 ..... dry
District 5—J. F. Gregory, J. C. Blair & Co. 8 2
O. E. Gregory, Davy Oil 12 5
District 13—Coyle heirs, W. A. Hurst & Co. 4 5

Wells completed 4
Production 12
Dry 1

ESTILL COUNTY

District 7—Wm. Tackett, McEldowney, Bowser & Co. 2 1
District 8—A. F. West & Co., Superior Oil Corp. 17 2
A. F. West & Co., Superior Oil Corp. 18 2
A. F. West & Co., Superior Oil Corp. 19 2
T. W. Tyree, Superior Oil Corp. 23 2
J. D. Alexander, Superior Oil Corp. 41 ..... dry

Wells completed 6
Production 9
Dry 1

WOLFE COUNTY

District 20—Kash No. 2, August F. Girard 1 ..... dry
Childers, Crit Childers 6 5

Wells completed 2
Production 5
Dry 1

JOHNSON-MAGOFFIN COUNTIES

District 27—Gundy Gardner, Lolen Oil 1 1
District 30—Frank Conley, Boston-Southwestern Oil & Gas 14 5

Wells completed 2
Production 6

MORGAN COUNTY

District 6—Ambrose Pelphy, Swiss Oil Corp. 1 ..... dry

FLOYD-KNOTT COUNTIES

District 21—Vinson Whitaker, Pet. Exploration 1 ..... gas

ELLIOTT COUNTY

District 34—B. B. Fannin, Gambill, Burton & Co. 1 ..... dry

KNOX COUNTY

Indian Creek—North Jellico Coal, Petroleum Exploration 4 ..... dry

WELLS COMPLETED

TENNESSEE
CLAY COUNTY

Celina—Joe Moredock, Carnahan Oil 2 100
Sam Kesling, J. L. Miller 5 5
Sanford Stamps, Reeser & Edwards 3 20
Sanford Stamps, Reeser & Edwards 4 20
Sanford Stamps Reeser & Edwards 5 20

Wells completed 5
Production 165

WEST TEXAS FIELDS

Summary of Wells Completed

County—	Com.	Prod.	Dry	Gas
Concho	1	....	1	0
Crane	3	540	1	0
Culberson	1	....	1	0
Glasscock	1	....	1	0
Howard	15	12,841	1	0
Irion	2	7	1	0
Jones	7	1,909	2	0
Loving	1	206	0	0
Menard	1	....	1	0
Mitchell	2	....	2	0
Pecos	25	473,598	2	0
Reeves	1	....	1	0
Runnels	1	....	1	0
Stonewall	1	....	1	0
Upton	2	....	2	0
Winkler	48	350,735	3	0
Total Sept.	112	839,836	21	0
Total Aug.	149	1,021,999	30	1
Difference	37	182,163	9	1

Summary of Rigs and Drilling Wells

County—	Rigs	Drlg.	S.D.	Ttl.
Crane	1	4	0	5
Crockett	1	3	6	10
Fisher	3	4	2	9
Howard	15	41	4	60
Jones	9	21	1	31
Mitchell	1	1	2	4
Pecos	5	24	17	46
Reagan	7	1	1	9
Runnels	2	3	7	12
Upton	4	1	3	8
Winkler	32	113	6	151
Miscellaneous counties	11	37	42	90
Total Sept.	91	253	91	435
Total Aug.	93	249	90	432
Difference	2	4	1	3

WELLS COMPLETED

CONCHO COUNTY

Harrell, Douglas Oil Co. 1 ..... dry

CRANE COUNTY

University-F, Simms & Atlantic 1 190
Cowden Brothers & Co., C. C. Duffey et al, 2 ..... dry
University, Church et al, 2 350

Completions 3
Production 540
Dry holes 1

CULBERSON COUNTY

Bettis, Deep Rock Oil Co., 1 ..... dry

GLASSCOCK COUNTY

R. L. Boston, Roxana Pet. Corp. 1 ..... dry

HOWARD COUNTY

Dora Roberts, Ward Oil Co., 2 159
W. R. Settles, Sun Oil Co., 1 1658
Dora Roberts, Sprague Oil Co., 1 1245
Otis Chalk, Pure Oil Co., 6 50
H. R. Clay-C, Marland Production Co. 1 50
M. H. O'Daniel, Magnolia Pet. Co., 2 .. dry
Dora Roberts, Evans Oil Co., 1 200
Dora Roberts-A, Cosden & Co., 3 1730
Dora Roberts-A, Cosden & Co., 1 2206
A. J. Hooks, Godley Oil Co. 6 125
Dora Roberts, Laurel-Cosden, 6 535
W. R. Settles, Texon-Marland Production Co., 2 200
H. R. Clay, Gulf Production Co., 2 72
H. R. Clay, Dunnigan & Hyer, 1 136
Dora Roberts, Schermerhorn Oil Co., 2 4475

Completions 15
Production 12,841
Dry holes 1

IRION COUNTY

Stocks, Richardson & Cochran, 1 ..... dry
Tankersley, Moore & Kennedy, 1 7

Completions 2
Production 7
Dry holes 1

JONES COUNTY

Walling-Tessie, Phillips Pet. Co., 5 40
J. H. Grayson, Roeser & Pendleton & Landreth Prod. Corp., 1 175
S. Boy-J. Winter, Phillips Pet. Co., 1 ... 104
J. W. Tiner, Hucony Gas Co., Atkinson & Sandefer, 3 20
J. W. Tiner, McMan Oil & Gas Co., 1 .. dry
C. A. Bickley, Snowden & McSweeney, 1 1560
G. M. Sharp, Phillips Pet. Co., 1 ..... dry

Completions 7
Production 1,909
Dry holes 2

LOVING COUNTY

W. W. Hubbard, Lockhart Oil Co., 1 .. 206

MENARD COUNTY

G. S. Allison, Moody Oil Corp., 1 ..... dry

MITCHELL COUNTY

Harry Hyman, Boehn Drilling Co., 1 .. dry
C. Way, Thraves et al, 1 ..... dry

Completions 2
Dry holes 2

PECOS COUNTY

M. A. Smith, Matador Oil Co., 4 1,032
I. G. Yates-B, Mid-Kansas Oil & Gas Co., 21 12,620
M. A. Smith, Tr-A, Gulf Production Co., 11 2,400
I. G. Yates, Gulf Production Co., 17 .. 1,440
I. G. Yates, Gulf Production Co., 18 .. 1,200
I. G. Yates-A, Mid-Kansas Oil & Gas Co., 3 6,144
I. G. Yates-A, Mid-Kansas Oil & Gas Co., 4 48,000
I. G. Yates-A, Mid-Kansas Oil & Gas Co., 12 10,080
I. G. Yates-B, Mid-Kansas Oil & Gas Co., 2 5,280
I. G. Yates-B, Mid-Kansas Oil & Gas Co., 8 38,400
I. G. Yates-B, Mid-Kansas Oil & Gas Co., 20 29,640
Sarah Byrens, Cowboy Evans et al, 1 .. dry
M. A. Smith, Humble Oil & Refining Co., 9 1,200
I. G. Yates-E, Mid-Kansas Oil & Gas Co., 2 32,400
M. A. Smith, Lease 2, The California Co., 3 528
Elsinore Cattle Co., Vacuum Oil Co. 1 ..... dry
I. G. Yates-A, Marland Production Co., 5 36,360
I. G. Yates, Gulf Production Co., 15 .. 22,704
I. G. Yates, Gulf Production Co., 19 .. 5,400
I. G. Yates-A, Mid-Kansas Oil & Gas Co., 10 28,606
I. G. Yates-B, Mid-Kansas Oil & Gas Co., 19 23,880
I. G. Yates-C, Mid-Kansas Oil & Gas Co., 7 6,768
I. G. Yates-D, Mid-Kansas Oil & Gas Co., 5 128,040
I. G. Yates-H, Mid-Kansas Oil & Gas Co., 4 11,556
I. G. Yates-H, Mid-Kansas Oil & Gas Co., 6 19,920

Completions 25
Production 473,598
Dry holes 3

REEVES COUNTY

Campbell, Eastland Oil Co. et al, 1 .... dry

RUNNELS COUNTY

A. C. Herring, Marland & Smith, 1 .... dry

STONEWALL COUNTY

W. P. Moore, Henshaw Oil Corp., 1 .... dry

UPTON COUNTY

J. W. Robbins, Buell & Hagen, 1 ..... dry
Union Land Co.-Murphy, F. P. Zoch, 1 .. dry

Completions 2
Dry holes 2

WINKLER COUNTY

T. G. Hendrick-E, Cranfill & Reynolds, 1 1,520
Grisham-Hunter-C, Pure Oil Co., 3 .. 5,000
Grisham-Hunter-A, Roxana Pet. Corp. 6 1,520
T. G. Hendrick-B, Roxana & The Texas Co., 3 10,584
T. G. Hendrick, T-88-M, Southern Crude Oil Purch. Co., 19 1,600
T. G. Hendrick, T-88-M, Southern Crude Oil Purch. Co., 20 4,704
Grisham-Hunter-E, Atlantic Oil Prod. Co., 5 ..... junked
T. G. Hendrick-F, Atlantic & Collett, 11 30,000
T. G. Hendrick-E, Cranfill & Reynolds, 4 7,800
T. G. Hendrick, Tr-B, Gulf Production Co., 17 33,482
T. G. Hendrick, Tr.-B, Gulf Production Co., 19 22,800
T. G. Hendrick, Prairie Oil & Gas Co., 6 9,600
Grisham-Hunter, Roxana Pet. Corp. & The Texas Co., 6 24,000
Ida Hendrick-A, Roxana Pet. Corp. & The Texas Co., 8-A 16,800
T. G. Hendrick-C, Roxana Pet. Corp. & The Texas Co., 3 24,000
T. G. Hendrick-D, Roxana Pet. Corp. & The Texas Co., 2 5,160
T. G. Hendrick, Skelly Oil Co., 12 .. 24,000
Ida Hendrick, 3-T-67-A, Southern Crude Oil Purch. Co., 1 ..... dry
Ida Hendrick, T-88-L, Southern Crude Oil Purch. Co., 1 2,000
T. G. Hendrick, T-88-M, Southern Crude Oil Purch. Co., 8 2,016
T. G. Hendrick, T-88-M, Southern Crude Oil Purch. Co., 18 1,560
T. G. Hendrick, T-88-M, Southern Crude Oil Purch. Co., 21 2,400
T. G. Hendrick, T-88-U, Southern Crude Oil Purch. Co., 1 2,160
E. W. Cowden, Amerada Pet. Corp., 1 2,280
Grisham-Hunter-G, Atlantic Oil Prod. Co., 5 7,600
T. G. Hendrick, Prairie Oil & Gas Co., 4 2,000
Grisham-Hunter-C, Pure Oil Co., 6 .. 15,000
Grisham-Hunter-A, Republic Production Co., 2 600
Ida Hendrick-C, Republic Production Co., 3 7,200
Grisham-Hunter-F, Roxana Pet. Corp. 5 10,320
T. G. Hendrick-B, Roxana Pet. Corp. & The Texas Co., 5 4,272
T. G. Hendrick-D, Roxana Pet. Corp. & The Texas Co., 5 3,360
T. G. Hendrick-E, Roxana Pet. Corp. & The Texas Co., 2 4,200
T. G. Hendrick, Skelly Oil Co., 9 ... 6,000
T. G. Hendrick, T-88-M, Southern Crude Oil Purch Co., 15 1,800
T. G. Hendrick, T-67-3-B, Southern Crude Oil Purch. Co., 4 270
T. G. Hendrick, T-88-T, Southern Crude Oil Purch. Co., 1 2,000
Grisham-Hunter-G, Atlantic Prod. Co., 3 750
T. G. Hendrick-F, Atlantic & Collett, 12 10,500
Grisham-Hunter, Eastland Oil Co., et al, 1-A 500
Grisham-Hunter, Humble Oil & Refining Co., 15 5,112
Scarborough, Roxana Pet. Corp. et al, 3 ..... dry
T. G. Hendrick-D, Roxana & Texas Co., 4 13,920
T. G. Hendrick-D, Roxana & The Texas Co., 6 2,280
Grisham-Hunter, 3-T-68-A, Southern Crude Oil Purch Co., 3-A 800
T. G. Hendrick, T-88-M, Southern Crude Oil Purch. Co., 14 9,100
T. G. Hendrick, T-88-M, Southern Crude Oil Purch. Co., 22 7,800
T. G. Hendrick, T-88-T, Southern Crude Oil Purch. Co., 2 365

Completions 48
Production 350,735
Dry holes 2

TEXAS PANHANDLE

Summary of Wells Completed

County—	Com.	Prod.	Dry	Gas
Carson	1	100	0	0
Gray	12	2,125	2	1
Hale	1	....	1	0
Hansford	1	....	1	0
Hartley	1	....	0	1
Hutchinson	4	160	0	2
Moore	1	....	0	1
Potter	1	....	0	1
Total Sept.	22	2,385	4	6
Total Aug.	45	5,253	7	10
Difference	23	2,868	3	4

Summary of Rigs and Drilling Wells

County—	Rigs	Drlg.	S.D.	Ttl.
Carson	3	5	4	12
Gray	15	50	10	75
Hutchinson	6	16	5	27
Wheeler	6	11	3	20
Miscellaneous counties	7	15	6	28
Total Sept.	37	97	28	162
Total Aug.	39	80	32	151
Difference	2	17	4	11

WELLS COMPLETED

CARSON COUNTY

B. F. Block, Ryan Petroleum Corp. 1 ... 100

GRAY COUNTY

M. A. Shaw, The Texas Co. 1 ..... gas
A. Thut, Prairie Oil & Gas Co. 2 1140
A. Thut, Prairie O l & Gas Co. 1 425
Jackson-Riley, Phillips Pet. Co. 4 20
J. S. Morse, Osborne et al, 1 ..... dry
W. C. Archer, Empire Gas & Fuel Co. 2 15
H. T. Bender, Empire Gas & Fuel Co. 2 30
Johns, Phillips Pet. Co. 2 300
A. Chapman-B, Baldridge & Sherrin 1.. 40
E. R. Eakins, Magnolia Pet. Co. 1 30
J. Williams, Holbrook et al, 1 ..... dry
S. W. McLarty-A, The Texas Co. 2 125

Completions 12
Production 2125
Gas production 113,000,000
Dry holes 2

HALE COUNTY

Goodman, Expltn. Co. of Texas 1 ..... dry

HANSFORD COUNTY

J. Adriance Estate, Caldwell et al, 1 ... dry

HARTLEY COUNTY

Lee Bivins-A, Canadian River Gas Co. 7 gas

HUTCHINSON COUNTY

J. A. Whitten-urg-Tinnie, Phillips Pet. Co. 12 110
H. E. Smith et al, Dixon Creek Oil Co. 3-E 50
F. P. Works, McKinney Gas Co. 1 ..... gas
Johnson Bros., U. S. Oil Corp. 1 ..... gas

Completions 4
Production 160
Gas production 115,000,000

MOORE COUNTY

J. T. Sneed, Jr., Amarillo Oil Co. 1 ..... gas

POTTER COUNTY

Lee Bivins-A, Canadian River Gas Co. 6 ..... gas

NORTH TEXAS FIELDS

Summary of Wells Completed

County—	Com.	Prod.	Dry	Gas
Archer	33	1,358	14	0
Brown	50	1,345	27	2
Callahan	6	63	5	0
Clay	2	....	1	1
Coleman	41	284	32	2
Comanche	2	30	1	1
Cooke	3	7	1	1
Denton	1	....	1	0
Eastland	17	460	9	2
Haskell	1	....	1	0
Jack	3	18	2	0
Montague	2	37	0	0
Palo Pinto	1	....	0	1
Shackelford	25	1,580	5	0
Stephens	1	....	1	0
Throckmorton	3	50	1	0
Wichita	27	680	9	0
Wilbarger	33	9,707	8	0
Young	56	1,185	28	0
Total Sept.	307	16,804	146	10
Total Aug.	357	33,346	165	11
Difference	50	16,542	19	1

Summary of Rigs and Drilling Wells

County—	Rigs	Drlg.	S.D.	Ttl.
Archer	14	21	5	40
Brown	12	29	24	65
Callahan	0	5	1	6
Coleman	7	32	16	55
Cooke	4	8	5	17
Eastland	7	18	7	32
Jack	3	7	11	21
Montague	3	4	3	10
Palo Pinto	3	3	7	13
Shackelford	3	18	5	26
Stephens	6	8	8	22
Throckmorton	1	6	1	8
Wichita	4	19	3	26
Wilbarger	17	54	13	84
Young	8	33	14	55
Miscellaneous counties	4	15	23	42
Total Sept.	96	280	146	522
Total Aug.	79	271	166	516
Difference	17	9	20	6

WELLS COMPLETED

ARCHER COUNTY

Hayter, The Texas Company 2 253
J. J. Perkins et al, Stump & Hines 8 ... 25
A. Wallace, Stump & Hines 3 55
Neimeyer, Consolidated Oil Co. 1 123
W. O. Hayter-A, Gulf Prod. Co. 3 240
J. J. Perkins et al, Arco Oil Co. 8 18
Parrish, Continental Oil Co. 1 ..... dry
Campbell, Kemrow Prod. Co. 10
J. H. Turbeville, Kurger and The Texas Co. 1 ..... dry
Kemp & Kempner, Shappell Oil Co. 1 ... dry
Neimeyer, C. W. Gilliland 3 26
Roberts-A, King Royalty Co. 4 20
Richardson, Madden & Hunt 1 53
L. C. Garvey, Pandem Oil Corp. and Lomax 1 ..... dry
Goldsmith, Wichita Prod. Co. 7 5
J. H. Turbeville, American Refg. Co. Properties 15 7
J. J. Perkins et al, Arco Oil Co. 9 20
J. Dempsey, Brown & Lickey 1 ..... dry
A. B. Wallace, Stump & Hines 4 40
H. L. and J. F. Ward, American Refg. Co. Properties 1 ..... dry
W. J. Logan-E, Humble O. & R. Co. 1 .. dry
J. T. Richardson, The Texas Company 16 85
W. O. Hayter, The Texas Company 3 .. 127
Perkins et al, J. J. Moran et al 1 ..... dry
P. P. Langford et al, W. C. Young et al 1 ..... dry
J. L. Anderson, Allen & Weizner 2 ..... dry
Hayter, Consolidated Oil Co. and Continental Oil Co. 1 ..... dry
Richardson, Madden & Hunt 2 83
Goldsmith, Magnolia Petroleum Co. 15 . 8
Hutton-Downing, Melville-Harris and Humble O. & R. Co. 1 ..... dry
J. A. Young-G, Pandem Oil Corp. 1 ..... dry
Richardson-B, Prairie O. & G. Co. 24 ... 80
W. O. Hayter, The Texas Company 4 ... 80
Andrews, Underwood Drilling Co. et al 1 ..... dry

Completions 33
Production 1358
Dry holes 14

BROWN COUNTY

R. Hickman, Anna Belle Oil Co. 8 175
J. B. Eubanks-B, Baker & Hodge 1 ..... dry
Copeland, Candle & Flint 1 ..... dry
J. B. Eubanks, Cranfill & Reynolds 12.. 40
Graham Est., Forest Oil Corp. 1 ..... dry
Curry, Hammon & Garrett 4 ..... dry
Hart & Roth, R. Hart 1 ..... dry
J. C. Kilgore-A, Humble O. & R. 6 2
R. Hickman, Kone Prod. Co. 15 100
George, Midwest Expltn Co. 3 ..... dry
L. Wise, Amerada Pet. Corp. 1 ..... dry
Henderson, Green 1 ..... dry
Stanley, Harry Gutzman 7 8
Collier, Dr. Lloyd et al 3 9
Collier, Dr. Lloyd et al 5 12
Berry, Clark-Buffalo Oil Co. 8 ..... dry
Graham Est., Cranfill & Reynolds 2 ... dry
Keller, Cross Cut Corp. 1 48
Armstrong, Annabelle Oil Co. 3 120
Wright, Bradstreet 1 ..... dry
Suttles, Davis et al 1 ..... dry
Hickman-A, Gilman & McMurray 5 35
Teston, Gilman & McMurray 13 10
Hickman, Kone Prod. Co. 14 100

Rosser, Milham Corp. 3 ..... dry
Newton, Parks, Shaw et al 1 ..... dry
Hamilton, Shelton et al 2 ..... dry
Baugh, S. W. S. Oil & Gas Co. 2 ..... dry
Newton, Burris 7 40
H. Byler, Charter Oil Co. 10 75
George, French 1 ..... dry
Butler, Midland Oil Co. 9 60
Rosser, Milham Corp. 4 143
Keller-B, Mitchem et al 2 ..... dry
A. B. Teston, Valley Oil Co. 10 280
Eddington, Williamson et al 4 ..... dry
McDonald, Brown County Gas Co. 2 ..... gas
Culbertson, Cox & Drake 1 ..... dry
Riordan, Riordan 1 8
Churchill, Uhl 1 ..... dry
Hickman, Gilman & McMurray 5 ..... dry
Curry, Hammon & Garrett 5 65
Lewis, Stanley 1 ..... dry
Baugh, Wittmer Oil & Gas Co. 1 ..... dry
Hickman, Woodley Petroleum Co. 10 ..... dry
Martin-B, Evans 1 ..... gas
Collier, Lloyd et al 4 10
Collier Lloyd et al 6 5
McComb, Robb 1 ..... dry
Guyer, Vandiver et al 1 ..... dry

Completions 50
Production 1345
Gas production 2,650,000
Dry holes 27

CALLAHAN COUNTY

Wilson, Prairie O. & G. Co. 1 ..... dry
Powell, Shaw 1 ..... dry
Gilliland, Tidal Oil Co. 2 ..... dry
Alexander, Burnham 1 ..... dry
Gillett, Prairie O. & G. Co. 2 63
Finley, Ames et al 1 ..... dry

Completions 6
Production 63
Dry holes 5

CLAY COUNTY

Skelly-Fee, Lone Star Gas Co. 11 ..... gas
Wade, Hamilton et al 1 ..... dry

Completions 2
Gas production 140,000
Dry holes 1

COLEMAN COUNTY

Alexander, Anzac Oil Co. et al 1 ..... gas
Morris, Eastland Oil Co. et al 5 ..... dry
Jennings-C, Cunningham et al 2 150
Sealy-Smith, The Texas Company 1 32
Davenport, Forster et al 3 5
Brannon, Simms Petroleum Co. 1 ..... dry
Bowen, Taylor-Link Oil Co. 1 ..... dry
Edmondson, Wilbern & Brians 1 ..... dry
Holt estate, Amerada Pet. Corp. 1 ..... dry
Jennings, Derby Oil Co. 1 ..... dry
Gay, Taylor 1 ..... dry
J. P. Morris-B, Eastland Oil Co. et al 2 ..... dry
J. P. Morris, Magnolia Pet. Co. 20 ..... dry
Overall, Continental Oil Co. et al 7 ..... dry
Hinds, Continental and Atlantic Oil Prod. Co. et al 1 ..... dry
Rice, Dunnigan & McReady 1 12
Sealy & Smith, Kingwood Oil Co. 1 ..... dry
E. Overall, Midsun Oil Corp. 1 ..... dry
Morris, Amerada Pet. Corp. 1 ..... dry
Parker, Carter 1 ..... dry
Dibrell, Fletcher & Green 1 ..... dry
Morris, Gwinnup et al 1 ..... dry
McCord estate, Kingwood Oil Co. et al 1 dry
McCord estate, Kingwood Oil Co. et al 2 dry
Mullanax, McIntyre et al 1 ..... dry
Neff, Starr & Kaiser 1 ..... dry
Starnes, Agrey Oil Co. 1 ..... dry
Jennings-A, Cunningham et al 5 10
Jennings, Derby Oil Co. 8 50
Burson, Donaldson & Miller 1 ..... dry
Matthews, Humphrey Bros. et al 2 25
Idol, Kitching & Kennard 1 ..... dry
Lancaster, Locke & Nokes 1 ..... dry
Kingsberry, McCunningham et al 1 ..... dry
Ford, McGahrey et al 1 ..... dry
Shaw, Manhattan & Owens 1 ..... dry
Miller, Nichols 1 ..... dry
McClure, Simpson, White & Pinkston 1 ..... dry
Belknap, Tulsa Drilling Co. 1 ..... dry
Kingsberry, Turman et al 1 ..... gas
Guthrie, Wilmott et al 1 ..... dry

Completions 41
Production 284
Gas production 14,750,000
Dry holes 32

COMANCHE COUNTY

Poteet, Scoggins 2 30
Anglin, Texas Fidelity Oil Corp. et al 1 dry

Completions 2
Production 30
Gas production 2,500,000
Dry holes 1

COOKE COUNTY

J. A Dennis, American Refining Co. 16. dry
A. A. Otto, Fain-MaGaha Oil Corp. 1 7
Chaffin, Fain-McGaha Oil Corp. 3 ..... gas

Completions 3
Production 7
Gas production 200,000
Dry holes 1

DENTON COUNTY

Yeatts, Lesh-McCall et al 1 ..... dry

EASTLAND COUNTY

La Mance, Amerada Pet. Corp. 1 ..... dry
Vance, Clark et al 1 ..... dry
Parker, Goodwin et al 1 ..... gas
Webb, Hazlip et al 1 ..... dry
Johnson, Lewis et al 1 ..... gas
Brewer, Schlummel Prod. Corp. 1 ..... dry
Earp, Porter Dev. Co. 1 ..... dry
Fox, Dale Oil & Refining Co. 11 40
Hightower, Panhandle Refining Co. 28. 5
Ridens, Lowe, Delaney Carter 1 ..... dry
Coon, Harbin 1 ..... dry
Duncan, Cusnell et al 1 ..... dry
Rankin, Chestnut & Smith Corp. 1 ..... dry
Hart, Root et al 1 135
Lyerla, Lewis et al 1 15
Edmondson, States Oil Corp. 1 ..... dry
Hazel, Root et al 1 250

Completions 17
Production 460
Gas production 5,250,000
Dry holes 9

HASKELL COUNTY

Proctor, L. Hill 1 ..... dry

JACK COUNTY

Greene, Clay Wilson Co. 1 ..... dry
Gay, Harrison et al 1 ..... dry
Cullers, Buttram Pet. Corp. 2 18

Completions 3
Production 18
Dry holes 2

MONTAGUE COUNTY

Salmon-D, Bridwell Oil Co. 4 12
Keck-A, Pure Oil Co. 6 25

Completions 2
Production 37

PALO PINTO COUNTY

Watson, Gordon & Gholson 1 ..... gas

SHACKELFORD COUNTY

Robinson, Miller & Peterson et al 1 ..... dry
W. I. Cook-A, Section 62, Roeser & Pendleton 6 100
W. I. Cook-C, Section 60, Roeser & Pendleton 28 50
W. I. Cook-C, Section 60, Roeser & Pendleton 29 50
W. I. Cook-C, Section 60, Roeser & Pendleton 31 300
W. I. Cook-A, Section 60, Roeser & Pendleton 77 25
W. I. Cook-A, Section 61, Roeser & Pendleton 9 75
W. I. Cook-A, Section 61, Roeser & Pendleton 10 200
W. I. Cook-A, Section 61, Roeser & Pendleton 11 75
W. I. Cook-A, Section 145, Roser & Pendleton 1 ..... dry
J. B. Matthews, Tannehill Oil Co. 8 ..... dry
Davis, Hope Petroleum Co. 11 ..... dry
Bradford, A. J. Hughes 1 ..... dry
J. B. Matthews, Midwest Explo. Co. 1. 15
W. I. Cook-C, Section 60, Roeser & Pendleton 30 200
W. I. Cook-C, Section 60, Roeser & Pendleton 32 40
W. I. Cook-C, Section 60, Roeser & Pendleton 34 40
Moberley, Decatur Oil Co. 3 5
Matthews, Ohio-Texas Oil Co. 7 40
W. I. Cook-A, Section 60, Roeser & Pendleton 77 25
W. I. Cook-A, Section 60, Roeser & Pendleton 78 50
W. I. Cook-A, Section 61, Roeser & Pendleton 12 100
W. I. Cook-A, Section 62, Roeser & Pendleton 7 80
W. I. Cook-C, Section 60, Roeser & Pendleton 33 100
Sedwick, The Texas Company 2 10

Completions 25
Production 1530
Dry holes 5

STEPHENS COUNTY

Hagaman, Hagaman Refining Co. 1 ..... dry

THROCKMORTON COUNTY

R. M. Titus, F. W. Holder 1 25
Overcash, Woodson Oil Co. 1 25
Graham, Reiter-Foster Oil Corp. 5 ..... dry

Completions 3
Production 50
Dry holes 1

WICHITA COUNTY

W. T. Willis, John Willis 1 ..... dry
P. P. Langford, R. R. Clark 1 ..... dry
P. P. Langford, R. R. Clark 2 ..... dry
Kemp & Kempner, Coleman & Coppock 15 30
Waggoner Brothers, Culberson Co. 54 10
Kemp & Kempner, Lot 4, Coleman & Coppock 5 10
S. H. McCarty, Hammon et al 7 10
S. H. McCarty-C. W. H. Hammon 2 120
McCarty-D, Hammon & Garrett 4 80
Waggoner Bros.-A, H. Hines et al 1 ..... dry
Mitchell-C, King Royalty Co. 1 ..... dry
Allen & Kemp, Magnolia Pet. Co. 3 10
J. E. Terhune, Hammon & Garrett 1 ..... dry
Waggoner Bros., H. Hines et al 4 14
Kemp & Kempner, Staley & Wynne 2 25
Lockridge, E. J. Stump & Co. 1 ..... dry
Fassett, Trout & Lambert 1 ..... dry
J. E. Pace, Underwood Drlg. Co. 1 ..... dry
Ancell et al, Empire Holding Corp. 5 20
Ancell et al, Empire Holding Corp. 6 100
McCarty-C, W. H. Hammon 4 25
J. E. Terhune, Hammon & Garrett 2 25
Waggoner Bros., H. Hines and Humble O. & R. Co. 5 87
J. R. Pace, Magnolia Pet. Co. 2 9
Bishop, Petroleum Prod. Co. and Comac 1 25
Waggoner Bros., The Texas Company et al 5 30
Waggoner Bros., Hines et al 6 50

Completions 27
Production 680
Dry holes 9

WILBARGER COUNTY

W. T. Waggoner, Grisham et al 1 63
W. T. Waggoner-E, Waggoner Refining Co. 7 302
G. B. Ancell-B, G. B. Ancell 1 ..... dry
W. T. Waggoner-A, Consolidated Oil Co. 9 186
W. T. Waggoner-A, Consolidated Oil Co. 11 443
W. T. Waggoner-H, Consolidated Oil Co. 1 46
W. T. Waggoner-B, Cosden & Co. 23 190
W. T. Waggoner-B, Cosden & Co. 24 190
W. T. Waggoner-B, Baker et al 3 350
W. T. Waggoner, Bass & Dillard 3 94
W. T. Waggoner, Bass & Dillard 4 50
W. T. Waggoner-C, Consolidated Oil Co. 2 ..... dry
W. T. Waggoner-A, Hamilton & Martin 4 183
W. T. Waggoner, Hampton & Wilson 1. 220
T. J. Milner, Roxana Pet. Corp. 2 ..... dry
W. T. Waggoner, Simms Pet. Co. 4 116
W. T. Waggoner, The Texas Company 11 160
W. T. Waggoner-E, The Texas Company 11 490
W. T. Waggoner-H, Waggoner Refining Co. 9 560
W. T. Waggoner-S, Fain-McGaha Oil Corp. 9 1000
W. T. Waggoner-S, Fain-McGaha Oil Corp. 11 2040
W. T. Waggoner-X, Fain-McGaha Oil Corp. 1 ..... dry
W. T. Waggoner-N, Humble O. & R. Co. 11 ..... junked
W. T. Waggoner-B, Lawson 13 60
Dorothy-Waggoner, Phillips Pet. Co. 1. dry
W. T. Waggoner-MM, Phillips Pet. Co. 4 15
W. T. Waggoner-E, Waggoner Refining Co. 8 299
W. T. Waggoner-H, Waggoner Refining Co. 8 1200
W. T. Waggoner-B, Baker et al 4 125
W. T. Waggoner-E, Consolidated Oil Co. 1 ..... dry
W. T. Waggoner-A, Derby Oil Co. 2... 160
W. T. Waggoner-Mann, Phillips Pet. Co. 1 ..... dry
W. T. Waggoner, Simms Pet. Co. 5 165

Completions 33
Production 9707
Dry holes 8

YOUNG COUNTY

Porter, Franklin et al 1 ..... dry
Kunkel-B, Gwynn et al 3 ..... dry
Garvey, Jetter & Dixon 1 ..... dry
Davis, Kleiner et al 2 5
Davis, Mook-Texas Oil Co. 5 25
Baker, Parker Oil Co. 1 ..... dry
Watson, Reed & Wooten 1 ..... dry
McKinley, Riggs et al 12 70
Lowe, Rowe 1 15
Garrett, Shappell Oil Co. 3 50
Thornton, Bert Brookins 1 ..... dry
Hatfield, Christie Brothers 1 30
Graham, Lindsey & Bollin 2 60
Bills, Cunningham & Bratcher 1 ..... dry
Willard, Hamilton & Anderson 1 ..... dry
Langston, Kleiner et al 17 50
Langston, Kleiner et al 18 10
Johnson, Magnolia Pet. Co. 1 ..... dry
J. H. Davis, Mook-Texas Oil Co. 4 ..... dry
Johnson-C, Pennell Oil Co. 3 20
Johnson-C, Pennell Oil Co. 4 40
Johnson-D, Pennell Oil Co. 2 4
Hennig, Petroleum Prod. Co. 5 50
Haywood, Roxana Pet. Corp. 1 ..... dry
Davis, Smith et al 1 ..... dry
Boone, Stafford 3 ..... dry
Garrett, Tidal Oil Co. 1 ..... dry
Jordan, Weekly Oil Corp. 1 ..... dry
Sedden, Maher 1 ..... dry
Thompson, Schermerhorn Oil Co. 2 100
Johnson, Cunningham et al 3 ..... dry
Johnson, Ford et al 1 ..... dry
Garvey-D, Johnston 1 ..... dry
Langston, Kleiner et al 19 15
Langston, Kleiner et al 20 12
J. H. Davis, Mook-Texas Oil Co. 6 50
Belknap Coal Co., Painter & Coleman 1 dry
Willett, Peckham 1 ..... dry
Johnson-C, Pennell Oil Co. 5 ..... dry
Kunkel, Prairie O. & G. Co. 3 95
McKinley, Riggs et al 13 15
Stewart, Stafford 1 ..... dry
Garrett, Tidal Oil Co. 2 ..... dry
Callahan, Pitzer & West 1 ..... dry
Marshall, Atlantic & Camp 1 ..... dry
Bishop, Chancellor 1 ..... dry
J. H. Davis, Kleiner et al 3 120
Langston, Kleiner et al 21 15
J. H. Davis, Mook-Texas Oil Co. 7 40
C. W. Johnson-F, Pennell Oil Co. 1 ..... dry
J. B. McKinley, Riggs et al 14 26
Eichelberger, Wilson et al 1 ..... dry
Eddleman, Justin Oil Corp. 2 78
Davis-A, Sun Oil Co. 2 25
Donnell, T. P. Coal & Oil Co. 5 50
Donnell, T. P. Coal & Oil Co. 6 60

Completions 56
Production 1185
Dry holes 28

ROCKY MOUNTAIN AREA

WYOMING

Summary of Field Operations

District or County—	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
Salt Creek..	2	2,259	0	0	2	10	12
Big Horn	0	0	0	0	1	10	11
Carbon	0	0	0	0	1	12	13
Converse	0	0	0	0	1	3	4
Fremont	0	0	0	0	0	10	10
Hot Springs.	0	0	0	0	1	4	5
Johnson	0	0	0	0	1	3	4
Lincoln	0	0	0	0	1	4	5
Natrona (Ex-Salt Creek)	1	150	0	0	3	2	6
Niobrara	0	0	0	0	2	5	7
Park	6	2,965	0	0	5	23	28
Sweetwater .	0	0	0	0	2	7	9
Sublet	5	205	0	1	2	22	24
Uinta	0	0	0	0	4	8	12
Misc.	0	0	0	0	1	6	7
Total Sept.	14	5,579	0	1	27	129	156
Total Aug.	12	1,185	3	1	31	135	166
Difference	2	4,394	3	0	4	6	10

WELLS COMPLETED

26-40- 79 NE Wyoming Asso. 19-L 2229
26-40- 79 SW Midwest Oil Co. 6 30
3-33- 83 Fargo-Western Oil Co. 16 ... 150
5-50-100 Cactus, Ohio Oil Co. 1 1000
32-52-100 Frisby, Prod. & Refiners 1 ... 425
30-51-100 Western States, Enalpac O. & G. 1 250
8-51-100 Sonners, Ohio Oil Co. 4 750
5-51-100 Pauline, Enalpac O. & G. 2.. 300
25-59- 98 Rosenberg et al 1 240
3-26-113 Rainbow Oil Co. 8-A 25
10-26-113 California Pet. Co. 4-C 30
3-26-113 California Pet. Co. 2-G 50
34-27-113 California Pet. Co. 7-C 100
3-26-113 California Pet. Co. 4-F ..... gas

Wells completed 14
Production 5579
Gas 20,000,000

COLORADO

Summary of Field Operations

County—	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
Bent	0	0	0	0	0	3	3
Elbert	0	0	0	0	0	3	3
Fremont ...	1	0	1	0	1	17	18
Jackson	0	0	0	0	0	6	6
La Plata ...	0	0	0	0	1	2	3
Larimer	0	0	0	0	2	11	13
Las Animas.	0	0	0	0	1	4	5
Moffat	4	960	3	0	7	10	17
Rio Blanco .	1	0	1	0	1	1	2
Routt	0	0	0	0	0	8	8
Misc.	0	0	0	0	0	21	21
Total Sept.	6	960	5	0	13	86	99
Total Aug.	8	1,490	3	0	16	84	100
Difference	2	530	2	0	3	2	1

WELLS COMPLETED

36-18-70 Curtis, Donnelly Bros. 1 ..... dry
26- 4-92 Yarg, Shaffer Oil & Ref. Co. 1 dry
23- 4-92 Midwest Ref. Co., 8-SD-2 960
10-2n-88 U. S. Cons. Union of Calif. 1. dry
23- 4-92 Parkinson, Texas Prod. Co. 6. dry
15- 4-92 State, Texas Prod. Co. 17 ..... dry

Wells completed 6
Production 960
Dry and abandoned 5

NEW MEXICO

Summary of Field Operations

County—	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
Chaves	0	0	0	0	0	4	4
De Baca	0	0	0	0	0	2	2
Eddy	2	0	2	0	2	5	7
Lea	1	175	0	0	8	17	25
McKinley ...	0	0	0	0	3	9	12
San Juan ...	0	0	0	0	5	21	26
Torrance ...	0	0	0	0	1	5	6
Valencia ...	0	0	0	0	0	2	2
Misc.	0	0	0	0	0	10	10
Total Sept.	3	175	2	0	19	75	94
Total Aug.	5	25	4	0	19	72	91
Difference	2	150	2	0	0	3	3

WELLS COMPLETED

8-21-35 State, Empire Gas & Fuel Co. 1 175
10-18-27 Mann, R. D. Compton 5 ..... dry
1-17-31 Gessert, Pueblo Oil Co. 2 ..... dry

Wells completed 3
Production 175
Dry and abandoned 2

MONTANA

Summary of Field Operations

Districts	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
Cat Creek ..	2	30	0	0	1	5	6
Kevin-Sunburst .	28	1,123	10	6	14	17	31
Pondera	15	2,017	2	0	11	33	44
Misc.	6	16	4	0	8	45	53
Total Sept.	51	3,186	16	6	34	100	134
Total Aug.	33	2,504	12	5	21	93	114
Difference	18	682	4	1	13	7	20

WELLS COMPLETED

14-15-29 Continental Oil Co. 25
4-15-29 Trench Oil Co. 1 5
10-34- 1 Murrils, Adams Co. Trustee 2.. dry
20-34- 1 Adams, Bethal Oil Co. Ltd. 1.. gas
12-34- 2 Steele, Big West Oil Co. 6 ... dry
11-34- 1 Peterson, Bistate Oil Co. 3 .... gas
19-35- 1 Zachor, Craig Drilling Co. 2 25
7-34- 1 Carlson, Dakota Montana 16 .. dry
10-25- 2 Bruins, Tom Davis Synd. 8 ... gas
32-35- 1 Caine, "66" Petro. Corp. 49 ... 40
1-34- 2 Faunce, Hibbings-Sunburst 5.. dry
25-35- 5 Sohn, J. M. Murphy Petro. 1 .. 10
30-35- 2 Helmrich, Pellissier et al 4 .. dry
18-34- 1 Hannah, Queen City Oil 3 ... 50
28-35- 3 Thompson, R. C. Tarrant 1 50
28-35- 2 Lorensen, California Co. 28 .. dry
29-35- 2 Kalispell, Texas Pacific C. & O. 3 20
29-35- 2 Zimmerman, Minn. Petro. Co. 4 20
25-33- 2 Anderson, Sunburst O. & R. ... gas
19-35- 1 McKee, Smith-Bradford 1 15
7-34- 1 Harte, Radigan Hungerford 9 dry
27-35- 2 Smoke, California Co. 10 218
17-34- 1 Peterson, Cosmos Oil Co. 2.... 150
27-36- 2 Rhone, Idamont Oil Co. 1 ..... gas
18-34- 1 Lay, Olson-Gish 1 ..... dry
15-34- 1 Sauby, Eline Oil Co. 1 ..... gas
29-35- 2 Zimmerman, Minn. Petro. Co. 5 ..... dry
29-35- 2 Kalispell, Texas Pacific 4 ..... dry
1-34- 2 Faunce, Hibbing-Sunburst 6 .. 500
10-35- 2 Bruins, Ohio Oil Co. 9 25
15-27- 4 Kingsbury, California Petro. 2 75
16-27- 3 State, Peerless Dev. Co. 1 ..... dry
14-27- 4 Hirshberg, Texas Pacific C. & O. 4 150
15-27- 4 Hirshberg, Ohio Oil Co. 2 75
16-27- 4 State, Fulton Petro. Corp. 2 75
15-27- 4 State Bank, California Petro. Corp. 1 300
15-27- 4 Copley, W. H. Rice 1 250
24-27- 4 Fidelity-Lederer 1 ..... dry
15-27- 4 Gjullin, Continental Dev. Co. 4 414
15-27- 4 Kingsbury, California Petro. 1 63
10-27- 4 Gjullin, McCracken et al 75
16-27- 4 State, W. E. Rice 1 125
14-27- 4 Wheeler, Continental Dev. Co. 1 50
15-27- 4 Gjullin, Continental Dev. Co. 2 234
14-27- 4 Hirshberg, Texas Pacific C. & O. 3 131
12-26- 1 Carlson, Ohio Oil Co. 1 ..... dry
12-28-11 Williston, Shelby Oil & Gas .. dry
18-24- 1 Willick, Mitchner et al ..... dry
3-37- 2 Pitchard, Western Nat. Gas Co. ..... dry
31-26- 1 Freeborn, Medniah Oil Co. 1 .. 10
31-26- 1 Freeborn, C. L. Archer et al 1 6

Wells completed 51
Production 3186
Dry 16
Gas 6

UTAH

Summary of Field Operations

	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
Total Sept...	0	0	0	0	3	31	34
Total Aug...	0	0	0	0	4	29	33
Difference	0	0	0	0	1	2	1

LIMA FIELDS

Summary of Field Operations

	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
Wood	0	0	0	0	1	4	5
Hancock	0	0	0	0	0	2	2
Allen	3	65	0	0	0	5	5
Auglaize ...	3	36	0	0	1	4	5
Sandusky ...	1	3	0	0	0	0	0
Mercer	0	0	0	0	1	2	3
Seneca	19	465	14	0	1	12	13
Ottawa	1	24	0	0	0	1	1
Shelby	0	0	0	0	0	1	1
Hardin	0	0	0	0	1	2	3
Darke	2	40	0	0	0	2	2
Wyandot ...	0	0	0	0	0	1	1
Huron	0	0	0	0	0	1	1
Total Sept.	29	633	14	0	5	37	42
Total Aug.	21	820	6	0	2	37	40
Difference	8	187	8	0	2	0	2

WELLS COMPLETED
ALLEN COUNTY

Bath—William H. Hall, B. L. Carman & Co. 4 15
Charles Deaubler, M. C. Newton & Co. 1 30
C. M. Lenney, C. A. Peavey 9 20

Wells completed 3
Production 65

AUGLAIZE COUNTY

Salem—A. & M. Rohrbaugh, Charles Mertz & Co. 1 5
Washington—Ben Wierwillie, Real Oil 3 30
Moulton—Mrs. S. Whetstone, Stelzer & Boyd 4 1

J. F. Gearing, Herb Kelly 1, 2, 3.... abd

Wells completed 3
Production 36
Abandoned 3

SANDUSKY COUNTY

Jackson—C. Myers, Melvin Good 2 3
Madison—Gust Welker, August Welker 1, 2 ..... abd
Washington—George Long, W. H. Reineck 2, 3 ..... abd
Jacob Neeb, M. P. McGee 3 ..... abd

Wells completed 1
Production 3
Abandoned 5

SENECA COUNTY

Liberty—Frank Lynch, C. D. Telling & Co. 1 ..... dry
Joseph Sendenbach, Cadillac Oil 4... dry
P. W. Feasel, Wetrick Oil 1 ..... dry
D. W. Betts, Sun Oil 1 ..... dry
Frank Kimmet, Haubert & Huffman 1 ..... dry
Joseph Swartzmiller, McPherson Oil 4 150
Jacob Kimmet, Muncy Valley Oil & Gas 7 25
Jacob Kimmet, Muncy Valley Oil & Gas 8 200
Jacob Kimmet, Muncy Valley Oil & Gas 9 75
J. Hunker, J. H. Murphy & Son 3 ... 15
Ralph Feasel, Duncan, Roose & Milligan 1 ..... dry
D. J. Sorg, Lyons & Co. 1 ..... dry
Lucy Betts, C. H. Moses & Co. 1 ..... dry
Chaney-Hull, E. E. Reiser 2 ..... dry
Charles Feasel, S. Feasel & Co. 1.... dry
Hopewell—M. E. Gedeltig, Pankhurst & Co. 1 ..... dry
F. M. Crum, W. G. Gillespie & Co. 1.. dry
R. L. Shawn, Newcomer Oil & Gas 1 dry
Henry Hough, Lyons & Co. 1 ..... dry

Wells completed 19
Production 465
Dry 14

OTTAWA COUNTY

Harris—R. Klausmeyer, Miller Oil 3 24

DARKE COUNTY

Mississinewa—B. Fullerkamp, Cole Oil & Gas 1 10
J. T. Koenig, T. G. Ayres 1 30

Wells completed 2
Production 40

CENTRAL OHIO

Summary of Field Operations

	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
Ashland	13	0	8	5	13	15	28
Medina	2	0	1	1	1	8	9
Lorain	2	0	0	2	4	3	7
Wayne	8	0	4	4	6	7	13
Holmes	6	4	3	2	4	9	13
Cuyahoga	2	0	1	1	0	5	5
Richland	1	0	0	1	0	2	2
Knox	3	27	1	1	5	9	14
Coshocton	6	95	1	3	1	6	7
Summitt	11	0	3	8	2	14	16
Stark	1	0	0	1	0	1	1
Licking	15	210	2	3	5	12	17
Muskingum	4	25	1	2	9	6	15
Athens	20	12	2	13	8	13	21
Meigs	11	34	6	1	5	17	22
Jackson	3	0	0	3	10	10	20
Vinton	1	0	1	0	0	2	2
Lawrence	2	0	1	1	1	2	3
Gallia	1	0	0	1	0	2	2
Tuscarawas	0	0	0	0	0	2	2
Fairfield	1	0	0	1	1	3	4
Total Sept.	113	407	35	54	75	148	223
Total Aug.	87	349	19	47	76	126	202
Difference	26	58	16	7	1	22	21

WELLS COMPLETED
ASHLAND COUNTY

Hanover—G. H. Johnson, Ohio Fuel Gas 1-3,154 ..... dry
Green—E. S. Glasco, Ohio Fuel Gas 1-3,151 ..... gas
Orange—Ella Donley, Ohio Fuel Gas 1-3,197 ..... gas
E. T. McBride, Logan Gas 3-308 .... dry
J. W. Calhoun, Logan Gas 2-3,014 .. dry
Mary Sharick, Logan Gas 1-3,022 .. dry
Emma Miller, The Kemrow Co. 1 .. gas
Jane Fluke, The Kemrow Co. 2 .. gas
Sullivan—Mauris Fink, Ohio Fuel Gas 1-3,193 ..... dry
Vermillion—W. R. Jones, Ohio Fuel Gas 1-3,173 ..... dry
Leo Hawk, The Kemrow Co. 2 ..... gas
Lake—J. F. Bird, Glass & Zink 2 .... dry
Clear Creek—Emery Braden, Ringler & Co. 1 ..... dry

Wells completed 13
Dry 8
Gas 5

MEDINA COUNTY

Lafayette—Francis Bartdorf, F. E. Barnhart & Co. 1 ..... dry
Hinckley—C. K. Mattingley, Ohio Fuel Gas 1-3,155 ..... gas

Wells completed 2
Dry 1
Gas 1

LORAIN COUNTY

Grafton—John April, Chemical Oil & Gas 1 ..... gas
Eaton—F. L. Nobles, Ohio Fuel Gas 1-3,201 ..... gas

Wells completed 2
Gas 2

WAYNE COUNTY

Congress—E. J. Drebelbie, Ohio Fuel Gas 1-3,208 ..... gas
Chester—H. D. Martin, Ohio Fuel Gas 1-3,190 ..... dry
Dan Martin, Ohio Fuel Gas 3-3,203.. gas
Leah Lehman, Harmon & George 1 gas
Cannan—C. W. Whitmore, Logan Gas 4-3,019 ..... gas
Sugar Creek—W. I. Tschantz, Logan Gas Co. 1-3,012 ..... dry
Chippawa—John Walsh, Johnson & Stolz 1 ..... dry
Salt Creek—Matilda Jeffries, The Kemrow Co. 1 ..... dry

Wells completed 8
Dry 4
Gas 4

HOLMES COUNTY

Paint—I. Y. Miller, Ohio Fuel Gas 4-3,-177 ..... gas
Richland—James Gray, The Kemrow Co. 2 ..... dry
Walter Croskey, East Ohio Gas 2 .. dry
C. E. Shuy, East Ohio Gas 1 ..... gas
Knox—J. Sprang, I. E. O'Hail 1 ..... dry
Dan Mosher, Wm. Barker 1 4

Wells completed 6
Production 4
Dry 3
Gas 2

CUYAHOGA COUNTY

Olmstead—Martin Abt, J. W. Cushing 1 gas
Dover—O. S. Upp, Hulse & Kundtz 1 . dry

Wells completed 2
Dry 1
Gas 1

RICHLAND COUNTY

Monroe—Jane Ohler, Ohio Fuel Gas 1-3,181 ..... gas

KNOX COUNTY

Union—T. P. Bailey, Ohio Fuel Gas 1-3,188 ..... gas
Monroe—S. A. Rine, Preston Oil 1 .. 27
Pike—L. G. Fowler, Dowds & Co. 1 .. dry

Wells completed 3
Production 27
Dry 1
Gas 1

COSHOCTON COUNTY

Newcastle—Jackson Singer, Bell Bros. 1 ..... gas
Tiverton—Wm. Phillips, Bell Bros. 1 .. gas
Pike—V. Hon lenshall, Hope Construction & Refg. 1 20
C. Blair, Hope Construction & Refg. 1 dry
J. Lake, Stephenson Bros. 3 ..... gas
Clark—Cinderella Mullet, Ohio Oil 1 .. 75

Wells completed 6
Production 95
Dry 1
Gas 3

SUMMITT COUNTY

Franklin—A. Morrow, F. A. Brendall & Co. 1 ..... gas
Jess Snyder, F. A. Brendall & Co. 1.. gas
Henry Snyder, F. A. Brendall & Co. 1 dry
Wm. Link, F. A. Brendall & Co. 1 .. gas
Isaac Hose, F. A. Brendall & Co. 1 .. gas
T. A. Rennie, F. A. Brendall & Co. 1 gas
Steve Kazick, F. A. Brendall & Co. 1 dry
Clark Evans, McClay Bros. & Co. 1 dry
Richfield—J. C. Esselburn, John Arthur 1 ..... gas
Spring—Dayton A. Doyle, H. H. Cupler & Co. 1 ..... gas
Copley—F. & K. Tokios, Wiser Oil 1 .. gas

Wells completed 11
Dry 3
Gas 8

STARKE COUNTY

Lawrence—A. W. Spaulding, Johnson & Stolz 1 ..... gas

LICKING COUNTY

Fallsburg—L. L. Smith, Wittmer Properties Co. 1 ..... gas
Sam Mossholder, Wittmer Properties Co. 1 ..... gas
Earl Rine, Emerald Petroleum 3 .. 48
M. H. Billman, Ohio Fuel Gas 2-3,265 dry
George Chapin, Brown & Co. 7 15
Perry—Jas. Wright, The Preston Oil 5 4
Ray Boyd, Rugg & Egan 2 ..... gas
Ray Boyd, Rugg & Egan 3 5
Chas. Lothes, H. C. Farmer 1 1
Mary Ann—Ed Wright, H. C. Farmer 6 10
H. C. Farmer, H. C. Farmer 1 3
Franklin—C. O. Nybarger, Moore & Adams 2 1
Boy Scouts, Ralph Bros. 12 3
Hanover—Chas. Taylor, Hope Const. & Refg. 1 ..... dry
Hopewell—Henry Logham, The Pure Oil 1 120

Wells completed 15
Production 210
Dry 2
Gas 3

MUSKINGUM COUNTY

Perry—Wm. Knight, Mid-East Oil 1 .. dry
Jackson—Rou Baughman, Lantz & Meade 3 ..... gas
Licking—E. E. Montgomery, The Pure Oil 1 25
Clay—Jacob Rambo, Crawley & Co. 1.. gas

Wells completed 4
Production 25
Dry 1
Gas 2

ATHENS COUNTY

Ames—Loring Hill, Ohio Fuel Gas 1-3,-229 ..... gas
J. E. Gifford, Ohio Fuel Gas 2-3,270 gas
N. E. Dean, Orndorff & Co. 4 ..... gas
Wm. Adair, Higg.ns & Co. 1 ..... gas
Dover—Jones Coal, Ohio Fuel Gas 1-3,-149 ..... gas
Carthage—C. C. Snodgrass, Ohio Fuel Gas 3-3,198 ..... gas
J. W. Kincade, Ohio Fuel Gas 3-3,269 gas
Elize Weisenbach, Logan Gas 1 3
Lee—N. M. Barstow, Logan Gas 1-3,024 3
Berne—C. C. Elliott, Ohio Fuel Gas 2-3,164 ..... gas
J. B. Elliott, Ohio Fuel Gas 1-3,268 gas
Black Diamond Coal, Ohio Fuel Gas 8-3,251 ..... gas
C. C. Curtis, Smith & Thomas 2 3
C. C. Curtis, Smith & Thomas 3 1
Selby, Frank Selby 14 ..... gas
Lodi—State of Ohio, Ohio Fuel Gas 1-3,186 ..... gas
Oreland E. McGirr, Ohio Fuel Gas 1-3,187 ..... gas
Athens—Athens State Hospital, Gross & Co. 8 2
Cannan—Robt. Bean, Bailey Oil & Gas 1 dry
J. L. Mansfield, Wehrle Oil & Gas 1 ..... dry

Wells completed 20
Production 12
Gas 13
Dry 2

MEIGS COUNTY

Sutton—John Hallman, H. R. Hazlet & Co. 3 3
J. D. Carnahan, Wehrle Oil & Gas 1 ..... dry
T. M. Brewer, H. B. Goddard & Co. 2 2
Giles Hysell, Davis Oil 4 4
H. D. Carnahan, Tyree & Co. 3 25
Wm. Carnahan, Tyree & Co. 5 ..... dry
Scipo—J. H. Mayhugh, Ohio Fuel Gas 1-3,180 ..... dry
Bedford—W. L. Whaley, P. Peoples 1.. gas
Orange—C. D. Bentz, Ohio Fuel Gas 1-3,189 ..... dry
Salisbury—David Russell, W. M. Shipe & Co. 1 ..... dry
Columbia—J. D. Carpenter, Townsend Oil 1 ..... dry

Wells completed 11
Production 34
Dry 6
Gas 1

JACKSON COUNTY

Franklin—Edith Jones, Ohio Fuel Gas 1-3,150 ..... gas
Ida E. Jones, Ohio Fuel Gas 1-3,160 gas
Z. L. Dearing, Ohio Fuel Gas 1-3,185 gas

Wells completed 3
Gas 3

VINTON COUNTY

Clinton—Willard Carr, G. F. Drayer & Co. 1 ..... dry

LAWRENCE COUNTY

Symmes—George Woolum, Ohio Fuel Gas 1-3,146 ..... dry
Upper—Hecla Iron & Mining, Inland Oil Corp. 3 ..... gas

Wells completed 2
Dry 1
Gas 1

GALLIA COUNTY

Addison—H. E. Grover, Ohio Fuel Gas 1-3,211 ..... gas

FAIRFIELD COUNTY

Rush Creek—Cora L. Shaw & Co., Ohio Fuel Gas 1-3,184 ..... gas

INDIANA FIELDS

Summary of Field Operations

	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
Wells	0	0	0	0	0	1	1
Jay	1	0	1	0	0	2	2
Adams	0	0	0	0	0	2	2
Grant	0	0	0	0	0	1	1
Huntington	0	0	0	0	0	1	1
Gibson	0	0	0	0	0	3	3
Pike	2	25	1	0	0	0	0
Daviess	0	0	0	0	0	2	2
Sullivan	4	12	2	0	0	4	4
Vigo	5	235	1	0	0	4	4
Dubois	0	0	0	0	0	3	3
Warrick	0	0	0	0	0	2	2
Spencer	2	0	1	1	1	6	7
Knox	0	0	0	0	0	1	1
Benton	0	0	0	0	0	1	1
Fountain	0	0	0	0	0	1	1
Monroe	0	0	0	0	0	1	1
Bartholomew	0	0	0	0	0	1	1
Miami	0	0	0	0	0	1	1
White	0	0	0	0	0	1	1
Montgomery	0	0	0	0	0	1	1
Wabash	0	0	0	0	0	1	1
Greene	0	0	0	0	0	1	1
Henry	0	0	0	0	0	1	1
Allen	0	0	0	0	0	1	1
Madison	0	0	0	0	0	2	2
Hancock	0	0	0	0	0	1	1
Crawford	0	0	0	0	0	2	2
Perry	1	0	1	0	1	1	2
Marshall	0	0	0	0	0	1	1
Posey	0	0	0	0	0	1	1
Rush	0	0	0	0	0	1	1
Vanderburg	0	0	0	0	0	2	2
Steuben	0	0	0	0	0	1	1
Jasper	1	0	1	0	0	0	0
Pulaski	0	0	0	0	0	1	1
Decatur	6	0	0	6	0	0	0
Harrison	2	0	1	1	0	0	0
Stark	2	0	2	0	0	0	0
Total Sept.	26	272	11	8	2	56	58
Total Aug.	23	220	15	2	5	55	60
Difference	3	52	4	6	3	1	2

WELLS COMPLETED
JAY COUNTY

Penn—Bourne Brothers, A. M. Jones 8 dry

HUNTINGTON COUNTY

Salamonie—G. O. Tucker, H. B. Wood 2 abd

GIBSON COUNTY

Monroe—G. A. Taylor, Gem Oil Corp. 5. abd

PIKE COUNTY

Logan—Russell Hime, H. G. Darby & Co. 1 25
Monroe—Aug. Yeager, Gem Oil Corp. 3 dry

Wells completed 2
Production 25
Dry 1

SULLIVAN COUNTY

Fairbanks—Sam DeBaum, Baldridge & Co. 1 ..... dry
F. I. Williams, Sioux Oil Corp. 4..... 10
Rebecca Hopewell, Ohio Oil 3 ..... dry
Turman—Corda M. Willis, W. C. Kennedy Co. 3 2
W. A. Wilkey, Ohio Oil 1 ..... abd
C. B. Patton, Ohio Oil 1 ..... abd

Wells completed 4
Production 12
Dry 2
Abandoned 2

VIGO COUNTY

Prairie Creek—G. F. Collins, Ohio Oil 3 dry
F. I. Williams, Sioux Oil Corp. 3 30
Pearl Shattuc, Pierce & Co. 2 75
William Riggs, Sioux Oil Corp. 13.... 50
William Riggs, Sioux Oil Corp. 14 .. 80

Wells completed 5
Production 235
Dry 1

SPENCER COUNTY

Luce—J. B. Van Richard, Wiser Oil 1 .. dry
Robert Lang, R. W. Richards, trustee, 1 2

Wells completed 2
Dry 1
Gas 1

PERRY COUNTY

Toban—Joe Cook, Randal Rowe & Co. 1 ..... dry

JASPER COUNTY

Barkley—Jasper County Farm Co., J. F. Denney & Co. 1 ..... dry

DECATUR COUNTY

Near Greensboro—Hoosier Public Utilities 1, 2, 3, 4, 5, 6 ..... gas

Wells completed 6
Gas 6

HARRISON COUNTY

Boone—Lew Russell, Southern Indiana Utilities Corp. 1 ..... gas
Mauckport, Louisville Gas & Electric 2 ..... dry

Wells completed 2
Dry 1
Gas 1

STARK COUNTY

California—Drummond, Arco Oil & Gas 1 ..... dry
Washington—A. C. Boien, Arco Oil & Gas 1 ..... dry

Wells completed 2
Dry 2

ILLINOIS FIELDS

Summary of Field Operations

	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
Clark	2	62	1	0	0	2	3
Cumberland	1	0	1	0	0	1	1
Crawford	4	66	1	0	3	10	13
Lawrence	4	115	1	0	0	0	0
Wabash	6	185	2	0	0	2	2
Jefferson	0	0	0	0	0	1	1
Macon	0	0	0	0	0	1	1
Madison	0	0	0	0	0	1	1
Shelby	0	0	0	0	0	1	1
Total Sept.	17	428	6	0	3	19	22
Total Aug.	12	124	6	0	2	22	24
Difference	5	304	0	0	1	3	2

WELLS COMPLETED
CLARK COUNTY

Martinsville—J. S. Carper, Trenton Rock Oil & Gas 12 62
William Gallantine, William Gallantine & Co. 1 ..... dry
& Co. 1 ..... dry

Wells completed 2
Production 62
Dry 1

CUMBERLAND COUNTY

Sumpter—Concl. Schrider & Co. 1 ... dry

CRAWFORD COUNTY

Prairie—David Young, Cochran & Co. 1 ..... dry
Southwest—C. E. Davis, Phipps & Blosser 1 66
J. D. Waggoner, Big Four Oil & Gas 1 6
Montgomery—J. P. Sagar, Union National Bank & Co. 10 21

Wells completed 4
Production 66
Dry 1

LAWRENCE COUNTY

Petty—S. S. Updike No. 2, Ohio Oil 6.. 88
Nancy J. Updike No. 2, Ohio Oil 21... 25
Dennison—S. J. Gee, Ohio Oil 22 60
William Gillespie, Phipps, Blosser & Co. 1 ..... dry

Wells completed 4
Production 115
Dry 1

WABASH COUNTY

Wabash—Collison heirs, J. S. Young, Jr., & Co. 8 21
J. M. Mullinax, Highland Oil & Gas 1 120
John Leek, Adams Corner Oil 1 20
Tracy heirs, Tracy Heirs Oil 3..... dry
Friendsville—George Ridgley, Couch Brothers & Co. 1 ..... dry
A. B. Keen, Charles Lengelson & Co. 2 10

Wells completed 6
Production 185
Dry 2

MARION COUNTY

Sandoval—A. E. Benoist, Southwestern Oil & Gas 19 ..... abd

MICHIGAN FIELDS

Summary of Field Operations

	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
Muskegon	13	210	1	7	8	51	59
Midland	0	0	0	0	2	3	5
Saginaw	0	0	0	0	0	2	2
Gratiot	0	0	0	0	1	0	1
Monroe	0	0	0	0	0	1	1
Shiawassee	0	0	0	0	0	1	1
Crawford	0	0	0	0	0	1	1
Montcalm	0	0	0	0	1	0	1
Sanilac	0	0	0	0	0	1	1
Isabelle	0	0	0	0	0	2	2
Newaygo	0	0	0	0	2	1	3
St. Clair	0	0	0	0	0	4	4
Oakland	0	0	0	0	1	0	1
Van Buren	0	0	0	0	2	1	3
Alpena	0	0	0	0	0	1	1
Livingstone	0	0	0	0	0	1	1
Lapeer	0	0	0	0	1	0	1
Allegan	0	0	0	0	1	0	1
Oceana	1	0	1	0	0	0	0
Tuscola	0	0	0	0	0	1	1
Mason	0	0	0	0	0	1	1
Huron	0	0	0	0	0	1	1
Manistee	0	0	0	0	1	0	1
Kent	0	0	0	0	1	1	2
Cass	0	0	0	0	0	1	1
Ottawa	0	0	0	0	0	2	2
Total Sept.	14	210	2	7	21	58	79
Total Aug.	8	855	0	2	21	48	69
Difference	6	645	2	5	0	10	10

WELLS COMPLETED
MUSKEGON COUNTY

Muskegon—Walter Selner Estate, C. M. Bowers 1 ..... gas
Hower, C. M. Bowers 1 ..... gas
Shoup, Shoup & Co. 2 ..... gas
Nichols, Citizens Petroleum 1 ..... gas
Reeths, Dixie Oil 2 ..... gas
Dornbush, Tarakon Oil 1 ..... gas
A. Heinz, Muskegon Oil Corp. 2 40
Hartman, Muskegon Development 3.. 75
Fee, Continental Motors Corp. 1 30
M. Figge, Lima Oil Corp. 2 25
Figge, Dixie Oil 7 40
Marquardt, Kelley Goldboss 1 ..... dry
Laketon—Thompson, Carl Prather 1 ... gas

Wells completed 12
Oil wells 5
Production, oil 210

Dry 1
Gas wells 7
Volume gas 51,750,000

OCEANE COUNTY

Golden—Mrs. Carrie Meras, Edward Duval 1 ..... dry

EASTERN FIELDS

Summary of Wells Completed

	Comp.	Prod.	Dry	Gas
Allegany	33	72	1	1
Bradford	204	342	0	0
Middle Field	11	24	1	0
Venango-Clarion	27	39	2	3
Butler-Armstrong	8	11	1	0
S. W. Pennsylvania	20	57	2	11
West Virginia	64	130	8	32
S. E. Ohio	61	1,171	18	6
Total Sept.	428	1,846	33	53
Total Aug.	429	2,660	29	46
Difference	1	814	4	7

Summary of Work Under Way

Fields—	Rigs	Drg.	Ttl.
Allegany	21	35	56
Bradford	5	74	79
Middle Field	0	7	7
Venango-Clarion	2	26	28
Butler-Armstrong	4	17	21
S. W. Pennsylvania	4	20	24
West Virginia	34	86	120
S. E. Ohio	27	86	113
Total Sept.	97	351	448
Total Aug.	87	357	444
Difference	10	6	4

SOUTHWEST PENNSYLVANIA
WELLS COMPLETED
WASHINGTON COUNTY

Weir, Orvill & Co. 7 ..... dry
Metzler, Mfrs. L. & H. Co. 1 ..... dry
Oak, Nosinger & Jordan 1 ..... gas

ALLEGHENY COUNTY

Shafer, Shafer Bros. & Co. 1 8
McIntyre hrs., Jacob Morr.s 1 ..... gas
Harvey, Phillips O. & G. Co. 1 2

BEAVER COUNTY

McClure, Abrams & Co. 6 2
Prosnick, James Abrams 2 3
McKibben, Black Bros. & Co. 7 2

GREENE COUNTY

Kay & Co., Nuss, trustee 2 35
Phillips, Mfrs. L. & H. Co. 1 ..... gas
Yeager hrs., Carnegie Gas Co. 2 ..... gas
Strosnider, Swatski O. & G. Co. 2 ..... gas
White, Carnegie Gas Co. 1 ..... gas
Lemley, Carnegie Gas Co. 5
Williamson, Carnegie Gas Co. 1 ..... gas
Lantz, Peoples Gas Co. 1 ..... gas
Sterling, George Perry Co. 1 ..... gas
Sterling, George Perry Co. 2 ..... gas
Ogey, George Vance Co. 1 ..... gas

Wells completed 20
Production 57
Dry 2
Gas 11

SOUTHEAST OHIO
WELLS COMPLETED
MONROE COUNTY

Rush, Straud & Co. 1 ..... dry
Baker, H. C. Baker 7 30

PERRY COUNTY

Berrisford, Allegheny Oil Co. 3 5
R. Baker, Hilliard & Co. 1 10
Sowers, Cline & Co. 3 20
Moore, Pure Oil Co. 2 10
Vague hrs., Pure Oil Co. 5 25
Baker, Pure Oil Co. 1 50
Fletcher, Wehrle Co. 9 230
Winmore Service Co., Wehrle Co. 1 30
Penman-Bennett lot, Smeltzer & Co. 1 25
Eveland, Miller & Co. 1 150
Corbett, Northern Dev. Co. 1 10
Hinkle, Ohio Oil Co. 1 ..... dry
Rambo, Crewiet, Carr & Co. 1 ..... gas

HOCKING COUNTY

Brimmer, Gordon Oil Co. 7 ..... gas
Huggins, Hope C. & R. Co. 3 10
Sunday C. C. Co., Preston Oil Co. 1 .. 30
Sunday C. C. Co., Preston Oil Co. 2 .. 25
Guthrie, Brian & Co. 1 ..... gas
Mitchell, Kechelmacher est. 2 ..... dry

LICKING COUNTY

Wright, Farmer & Rugg 5 5
Rine, Emerald Pet. Co. 2 70
Asheraft, Preston Oil Co. 1 1
Farmer, H. D. Farmer 1 2
Hoyt, Hope C. & R. Co. 1 5
Loughman, Pure Oil Co. 1 225
Montgomery, Pure Oil Co. 1 50

HOLMES COUNTY

Gray, Kemrow Co. 1 ..... dry
Croskey, East Ohio Gas Co. 2 ..... dry
Shuy, East Ohio Gas Co. 1 ..... gas
Miller, Ohio F. G. Co. 2 ..... gas

COSHOCTON COUNTY

Blair, Hope C. & R. Co. 3 10
Mullet, Ohio Oil Co. 1 25

NOBLE COUNTY

McLaughlin, Rich & Co. 9 4
Harper, Hesson & Co. 8 ..... dry
Walker, Robinson & Co. 1 2
Mallett, Cain & Co. 1 5

KNOX COUNTY

Chapin, Emerald Pet. Co. 7 5
Rine, Preston Oil Co. 1 25

ATHENS COUNTY

Barstow, Logan Gas Co. 1 5
Mansfield, Wehrle Co. 1 ..... dry
Carpenter, Townsend & Co. 1 ..... dry

MORGAN COUNTY

Williams, Ohio F. G. Co. 1 ..... gas
Walter-Owen, M. C. Robinson 1 ..... dry

MEIGS COUNTY

Carnahan, Twenty-five Associates 5 .. dry
Carnahan, Joseph McGhee 3 25
Brewer, Goddard & Co. 2 3
Holman, J. H. Hazlett 2 5
Carnahan, The Wehrle Co. 1 ..... dry

WASHINGTON COUNTY

Lee, Sr., Reno Oil Co. 19 10
Sternhoff, Gigan & Co. 2 ..... dry
Amos, Hill & Co. 3 ..... dry
Archer, Smith & Co. 3 ..... dry
Ellis, Turney & Co. 1 2
Meister-Blair, Meister & Blair 1 2
Bowersock, Binnegar & Co. 3 ..... dry
Ridgeway, Blair & Co. 1 ..... dry
Ward, Schraw & Co. 7 25

JEFFERSON COUNTY

Williams, Sutton & Co. 7 ..... dry
Cooper, Cable Oil Co. 3 ..... dry

Wells completed 61
Production 1171
Dry 18
Gas 6

WEST VIRGINIA
WELLS COMPLETED
MARION COUNTY

Robinson, Owens B. & M. Co. 1 ..... gas
Tennant, So. P. O. Co. 1 ..... gas

HARRISON COUNTY

Rodgers, Garrett Gas Co. 1 2

WETZEL AND TYLER COUNTIES

Campbell, Denver O. & G. Co. 1 ..... gas
Lemaster, So. P. O. Co. 2 1

MARSHALL COUNTY

Bruhn, Mfrs. L. & H. Co. 1 2

DODDRIDGE COUNTY

Riffee, Garner & Co. 1 15

RITCHIE COUNTY

Wright, W. A. Bickerstaff 1 ..... gas
Britton, Phila. Oil Co. 2 ..... dry
Lawrence, Hays & Roberts 5 ..... gas
Smith, Kemp & Co. 4 ..... gas
Bean, Star O. & G. Co. 1 5
Pierpoint, Bachelor & Co. 3 5
Davis, D. Bachelor & Co. 1 10
Schrader, G. L. Watson 1 5
Haynes, Park Bowser 1 ..... gas
Morrow, Day & Co. 2 ..... gas
Arnett, Wolf Penn Oil Co. 1 3

CLAY COUNTY

Boman, Big Laurel O. & G. Co. 2 .... gas

GILMER COUNTY

Molohan, Steer Creek O. & G. Co. 6 .. gas
Westfall, Carnegie Gas Co. 2 ..... gas
Huffman, Chartiers Oil Co. 10 ..... gas

WIRT COUNTY

Rathbone Oil Tract, Roberts Bros. 162 2
Beckner, Liberty Supply Co. 10 4
S. J. Beckner, Liberty Supply Co. 11 .. 3
Heater, F. S. Andrews 4 4

WOOD COUNTY

Uhl, O. E. Grow 2 ..... dry
Augdin, Hegland Oil Co. 8 ..... dry
Marshall, Pleasant Hill Gas Co. 1 7

PLEASANTS COUNTY

Smith, E. C. Pickens 2 ..... dry
Ingram, Hartman & Connelly 2 ..... dry
Kester & Co., Pickens & Wallsmith 3 .. 1
Mammett, Bickle & Son 6 ..... dry

ROANE COUNTY

Pell-Newman, Federal O. & G. Co. 41 .. 5
McGraw, Heck Oil Co. 1 5
Simmons, M. E. Hersman 1 1

CALHOUN COUNTY

Dawson, Crowley & Co. 1 5
Lynch, Kingsbury & Dollman 3 5
Church, F. F. McIntosh 1 ..... gas
Morgan, F. F. McIntosh 1 ..... gas

LINCOLN COUNTY

Standard Fuel Co., Howard Gas Co. 1 . gas
Stewart, Wysong & Jaynes 2 ..... gas
King, Cambridge Gas Co. 1 ..... gas
Carpenter, Hobbs Bros. 2 ..... gas
Blas, U. F. G. Co. 1 ..... gas
McMillan, U. F. G. Co. 1 ..... gas
Butcher, Empire State Gas Co. 6 ..... gas
Nelson, Rashman Bros. 1 ..... gas
Horse Creek L. & M. Co., U. F. G. Co. 18 gas

KANAWHA COUNTY

Littlepage, U. F. G. Co. 1 ..... gas
Osborne, United Carbon Co. 20 5

BOONE COUNTY

Williams Coal Co., Pure Oil Co. 237 .. 10
White & Co., G. L. Cabot 3 ..... gas
Allen & Co., Hope Gas Co. 1 ..... gas
McKinney, Owens B. & M. Co. 1 ..... gas
Pauley, Owens B. & M. Co. 1 ..... gas
Gillespie, U. F. G. Co. 1 ..... gas
Cole-Crane, Pond Fork O. & G. Co. 5 .. gas

CABELL COUNTY

Morrison, Big Two Mile Gas Co. 1 .... gas
Porter, U. F. G. Co. 1 ..... gas

WAYNE COUNTY

Fraley, Ky. & W. Va. Gas Co. 2 ..... gas
Fry, Consolidated Gas Co. 1 ..... dry
Adkins, Consolidated Gas Co. 1 ..... dry

Wells completed 64
Production 130
Dry 8
Gas 32

CENTRAL WEST FIELDS

(Continued from Page 68)

the Logan Gas Co. is drilling No. 2-3,026 on the Walter C. Workman, Section 20, and the Ohio Fuel Gas Co. made a location for No. 1-3,321 on the J. F. Kettering, Section 35. In Hanover Township, the same company is drilling No. 2-3,161 on the Johnson & Barnes, Section 20. In Vermillion Township, same company made a location for No. 1-3,320 on the L. C. Galloway, Section 23, and W. E. Hawk and others are drilling a second test on the Luther Jones, Section 24.

In Medina County, Hinckley Township, the Ohio Fuel Gas Co.'s No. 1-3,155 on the Dr. C. K. Mattingley, Lot 24, is a gas well. F. E. Barnhart and others are drilling a test on the Mrs. W. M. Archer, Section 15, Homer Township.

In Grafton Township, Lorain County, the Ohio Fuel Gas Co. made a location for No. 2-3,318 on the Bert Nole farm, Lot 8, and is drilling No. 1-3,274 on the Frank Lang, Lot 10.

Wayne County

In Wayne County, Chester Township, the Ohio Fuel Gas Co.'s No. 1-3,190 on the Henry D. Martin, Section 29, is a dry hole. Harmon & George found a fairly good gas well at a test on the Leah Lehman, Section 17, and the same parties set a stake for a second test on the K. W. Taylor, Section 5. F. E. Barnhart and others made a location on the F. G. McCauley, Section 5, Congress Township, and the Ohio Fuel Co. made a location for No. 2-3,319 on the A. J. Ruse, Section 8, same township.

In Holmes County, Knox Township, William Baker's No. 1 on the Daniel Mosher, Section 1, 1,300 feet from the west line of the farm and 250 feet north of the highway, produced an initial of 4 bbls.

In Cuyahoga County, Olmstead Township, in the Cleveland Field, John Arthur is drilling a second test on the George Biddulph, Lot 27. L. M. McGrath is drilling No. 1 on the J. Saunders, Lot 28, and Goff Brothers are drilling No. 1 Emily C. Belden, Lot 13, same township.

In Knox County, Pike Township, Dowds and others' test on the L. G. Fowler, Section 21, was a dry hole in a sand from 678 to 692 feet. The Poorman Oil & Gas Co. is drilling No. 11 on the J. W. Foss, Section 6, Clay Township, same county.

In Summitt County, Franklin Township, F. A. Brendal and others' No. 1 on the T. A. Rennie, Section 27, is an average gas well. This firm made a location for No. 1 on the D. E. Spangler, Section 34, and for No. 2 on the Isaac Hose, Section 27.

In Licking County, Fallsburg Township, the Wittmer Oil & Gas Properties' test on the Sam Mossholder, Section 14, proved a very light gas well in a sand from 834 to 840 feet. In Perry Township, H. C. Farmer's No. 1 Charles Lother, Section 7, is a 1-bbl. pumper at from 634 to 649 feet. Whitehill Gas Co. is drilling No. 2 Albert Ashcraft, Section 2. In Madison Township, Charles Vaughn's No. 3 George Morrison, Section 3, shows for 4 bbls., and the Hope Construction & Refining Co.'s No. 1 on the Bert Hoyt, Section 13, shows around 3 bbls.

In Muskingum County, Perry Township, the Mid-East Oil Co. struck a duster on the William Knight, Section 15. Top of lime in this well was found at 2,710 feet and total depth of hole 2,835 feet. In Jackson Township, Lantz & Meade's No. 3 on the Roy Baughman, Section 17, is a light gas well in a sand from 705 to 727 feet. Pure Oil Co. is starting No. 4 on the George W. Crawford, Section 5.

Athens County

In Athens County, Ames Township, Kiggins and others got only a fair gas volume in a test on the William Adair, Section 3. The gas was encountered in the second Berea sand at from 1,336 to 1,351 feet. Ohio Fuel Gas Co. is drilling No. 4-3,291 on the J. E. Gifford, Section 2. In Dover Township, the Logan Gas Co. made a location for No. 49-3,042 on the Sunday Creek Coal Co.'s property. In Carthage Township, the Logan Gas Co.'s No. 1-3,021 on the Eliza Weisenbach got a 3-bbl. producer in the first Berea sand at 1,764 feet. E. A. Sweeney and others are drilling No. 5 C. D. Swartz in fractional Section 17. In Berne Township, Smith & Thomas' No. 3 on the C. C. Curtis, in fractional Section 33, is a 1-bbl. producer in the first Cow Run sand at 165 feet. Ohio Fuel Gas Co.'s No. 1-3,268 J. B. Elliott, Section 35, is a light gas well on the Charles C. Elliott, Section 29.

In Meigs County, Sutton Township, Tyree and others' No. 3 on the H. D. Carnahan, Section 11, is reported at 25 bbls. initial from the first Cow Run at from 574 to 592 feet. Same parties are drilling a test on the Jane Stobart, Section 12. Pure Oil Co. is drilling No. 2 William J. Krater, Section 10, and the Davis Oil Co. is drilling No. 5 Giles Hysell, Section 20, showing for a 6-bbl. pumper. In Scipo Township, Lee Stout and others are drilling a test on the Charles Woodyard, Section 34. In Rutland Township, Frank Leifhart and others are drilling No. 2 David A. Thomas, Section 6. In Salisbury Township, W. M. Shipe and others' No. 1 David Russell, Section 30, was dry in the Cow Run at 750 feet. Big Six Oil & Gas Co. is drilling a test on the Walter Carman, Section 24, same township. The Logan Gas Co. is drilling No. 1-3,033 on the Russell A. Guckler, in fractional Section 33, Bedford Township, same county.

In Franklin Township, Jackson County, the Ohio Fuel Gas Co. is drilling No. 2-3,273 on the Ida E. Jones, Section 23, and made a location for No. 1-3,313 on the William S. McClure, Section 28.

In Sugar Creek Township, Tuscarawas County, Palmer & Geisinger are drilling a test on the Sugar Creek Clay Products property, Section 2.

In Fairfield County, Rush Creek Township, the Ohio Fuel Gas Co. made a location for No. 2-3,307 on the Cora L. Shaw and others' farm, Section 4, and Shenker & Whitehill are drilling No. 4 Jesse Grove, Section 26.

Guernsey County

In Guernsey County, Valley Township, the Ohio Fuel Gas Co.'s No. 1-3,266 on the John Szuber, Section 4, is a good gas producer. Top of Berea sand was found at 1,188 feet, pay found from 1,191 to 1,194 feet. In Cambridge Township, Ferguson & McCullough's No. 1 Martin Tittle, Lot 13, produced 52 bbls. initial. Top of lime in this hole at 3,332 feet and top of pay sand at 3,448 feet. McCarten and others' No. 5 C. O. Watson, Lot 14, produced 15 bbls. initial. Top of lime at 3,256 feet and top of sand at 3,372 feet.

In Morgan County, the Bowman Oil & Gas Co.'s No. 1 Mary R. Mills, Section 26, Marion Township, is an average gas well in the second Berea sand at from 1,610 to 1,625 feet. The Kemrow Co. struck a nice gas well in No. 4 on the Charles E. Morris, Section 18, in the second Berea sand at from 1,411 to 1,428 feet and drilled to a total depth of 1,429 feet. Same company got an average gas well at No. 3 on the H. D. Huffman, Section 29, in the second Berea sand from 1,536 to 1,566 feet and went to a total depth of 1,568 feet. Lord, Shaw & Dye are drilling No. 6 Charles W. and Rose Newton, Section 24. In York Township, Snyder and others' No. 1 George Pillsbury, Lot 22, is a small gas producer.

Michigan

Reports from Saginaw is that the Daval Development Co. has disposed of its three wells in the Saginaw Field to Lemunyon and Weideman. The wells have declined to such an extent that it hardly pays the expense of pumping and the purchasers, it is understood, will pull the wells and ship the material to some other point for use in drilling of new wells.

The Saginaw Daily News reports a show of oil and gas from the Monroe limestone in the Deindorfer Woods well the Saginaw Prospecting Co. is deepening, though it is not yet known whether it has much significance. The company got the show at 3,325 feet, believed to be about 190 feet into the Monroe. The hole, however, had 1,500 feet of water in it, making it exceedingly difficult to tell much about oil or gas shows. The well was shut down and a string of casing will be run to shut off the water and permit tests under more favorable conditions. This well is believed by Prospecting company officials to be the deepest well, geologically at least, that has been drilled there and there was corresponding interest in whether the show of oil and gas can be developed into worthwhile production.

To Test Sanilac County

The Sanilac Prospecting & Developing Co. has been organized to test out territory in Sanilac County The first test is to be drilled in the "Thumn section," and the formations are pronounced good, if the drill can find them.

SOUR LAKE STATION FIRE

HOUSTON, Tex., Oct. 6.—The Sour Lake pump station of the Texas Pipe Line Co. on the trunk line from Humble to Port Arthur, was put out of commission as result of fire. Although the pump house was completely wrecked, several of the units were put back in operation that night. The plant consists of eight units but only one was damaged to any extent.

JOHN S. JURY DIES

CHATHAM, Ontario, Oct. 6.—John S. Jury, formerly prominent in the oil industry in the Petrolia Field, died recently at London, Ontario, in his eighty-second year.

Oklahoma-Kansas and Eastern Pipe Line Report

OKLAHOMA-KANSAS
Pipe Line Statement for August, 1928

Runs

Company—	Month (bbls.)	Dy. av. (bbls.)
Prairie P. L. Co.*	4,402,000	142,000
Gulf P. L. Co.	1,584,975	51,128
Texas P. L. Co.	742,717	23,959
Magnolia P. L. Co.	2,039,257	65,783
Empire P. L. Co.	965,660	31,150
Cosden P. L. Co.	1,040,217	33,555
Sinclair P. L. Co.	3,850,665	124,215
Oklahoma P. L. Co.	3,413,315	110,107
Other lines*	5,301,000	171,000
Total August	23,339,806	752,887
Total July	22,004,040	709,808
Difference	1,335,766	43,079

Shipments

Company—	Month (Bbls.)	Dy. av. (Bbls.)
Prairie P. L. Co.†	6,021,445	194,240
Gulf P. L. Co.	1,445,867	46,641
Texas P. L. Co.	1,059,582	34,180
Magnolia Pet. Co.	1,988,410	64,142
Empire P. L. Co.	1,129,915	36,449
Cosden P. L. Co.	887,163	28,618
Sinclair P. L. Co.†	3,138,264	101,232
Oklahoma P .L. Co.	3,342,764	107,831
Other lines	5,859,000	189,000
Total August	24,872,351	802,333
Total July	24,599,922	793,926
Difference	272,429	8,407

Stocks

Prairie O. & G. Co.*	31,355,000
Prairie P. L. Co.*	2,250,000
Gulf P. L. and Gypsy Oil Co.	10,169,509
The Texas Company	6,863,615
Magnolia Pet. Co.	8,778,770
Empire P. L. Co.	3,654,319
Mid-Continent Pet. Corp.	3,414,041
Sinclair Crude Oil Pur. Co.	19,800,000
Carter Oil Co.	12,320,994
Oklahoma P. L. Co.	2,887,081
Other lines*	11,275,000
Total August	112,768,329
Total July	113,149,369
Difference	381,040

*Estimated. †Prairie Pipe Line shipments include Texas crude oil, and Sinclair shipments include Texas and Wyoming crude oil.

Note—Stocks do not include approximately 8,000,000 bbls. of crude oil held in storage on private tank farms and leases and approximately 450,000 bbls. of Texas Panhandle crude oil in storage in Oklahoma.

EASTERN PIPE LINE REPORT

Runs From Wells

In the following table will be found the regular receipts from wells by various pipe lines in New York, Pennsylvania, West Virginia, Ohio, Kentucky and Indiana for July and August:

	July, 1928	Aug., 1928
Nat. Transit	165,615.08	170,904.52
S. W. Pa. P. L.	89,349.88	91,112.38
Eureka P. L.	378,775.12	381,023.25
Buckeye P. L. (Macksburg)	357,308.56	367,692.66
Buckeye P. L. (Cleveland)	12,112.31	11,928.55
Buckeye P. L. (Lima, etc.)	135,840.15	120,600.39
Indiana P. L.	6,957.57	7,013.10
Cumberland P. L.	238,113.15	223,338.19
N. Y. Transit	24,083.72	25,007.11
Tidewater P. L.	208,957.62	220,230.22
Pure Oil	62,195.75	65,261.50
Emery P. L.	57,824.37	61,506.60
Paragon Dev.	33,407.55	34,022.80
Stoli Oil Ref.	.....	10,447.17
Total	1,770,540.86	1,790,088.34
Daily average	57,114.23	57,744.78

Note—Indian Refining Co. also reported other receipts of 359,065.65 bbls. Paragon Refining Co. had other receipts of 138,478.39 bbls. Paragon Development had other receipts of 479.10 bbls.

Petroleum Deliveries

The following tables exhibit the shipments or regular deliveries of various pipe lines in New York, Pennsylvania, West Virginia, Ohio, Kentucky at the close of July and August:

	July, 1928	Aug., 1928
Nat. Transit	614,966.10	572,070.14
S. W. Pa. P. L.	440,368.20	462,872.37
Eureka P. L.	214,243.82	224,817.97
Buckeye P. L. (Macksburg)	123,124.42	148,487.46
Buckeye P. L. (Cleveland)	2,183.63	2,673.05
Buckeye P. L. (Lima, etc.)	1,492,535.14	1,512,473.28
Indiana P. L.	1,426,006.37	1,426,376.89
Cumberland P. L.	176,640.82	181,480.36
N. Y. Transit	255,219.66	213,009.28
Northern P. L.	152,913.58	316,097.85
Tidewater P. L.	172,170.62	177,158.38
Pure Oil	66,315.53	62,891.44
Emery P. L.	60,578.78	56,960.09
Paragon Ref.	283,389.07	189,693.84
Indian Ref.	362,367.80	393,569.13
Paragon Dev.	30,542.31	37,817.61
Total	5,873,565.39	5,978,449.13
Daily average	189,469.85	192,853.19

Gross Stocks

The gross stocks held by various pipe lines in the oil-producing sections of New York, Pennsylvania, West Virginia, Ohio, Indiana and Kentucky and Indiana for July and August.

	July, 1928	Aug., 1928
Nat. Transit	1,040,433.51	1,135,875.48
S. W. Pa. P. L.	764,368.72	713,492.58
Eureka P. L.	1,232,168.82	1,103,757.62
Buckeye P. L. (Macksburg)	600,776.71	540,894.00
Buckeye P. L. (Cleveland)	33,106.21	46,048.37
Buckeye P. L. (Lima, etc.)	3,898,453.21	3,717,960.51
Indiana P. L.	599,301.72	598,136.05
Cumberland P. L.	654,566.18	632,613.31
Southern P. L.	407,569.46	410,757.10
N. Y. Transit	813,273.44	706,799.19
Northern P. L.	515,379.92	458,296.62
Pure Oil	61,486.78	63,850.93
Emery P. L.	10,239.89	8,656.13
Paragon Ref.	74,719.14	23,167.67
Indian Ref.	103,324.84	69,892.18
Paragon Dev.	10,161.37	7,544.29
Total	10,819,330.94	10,236,743.03
Decrease	468,347.55	582,587.91

Grades of Oil

The following table shows the amount of the different grades of oil held by the eastern pipe lines at the close of July and August showing the gross stocks of the above fields:

	July, 1928	Aug., 1928
Pennsylvania	3,467,816.71	3,368,647.01
Lima	920,587.50	965,466.57
Kentucky	1,082,799.96	993,362.71
Mid-Continent	5,281,388.89	4,857,572.08
Illinois	66,737.88	51,694.66
Total	10,819,330.94	10,236,743.03

Daily Average Runs

The following table shows the daily average runs of the Pennsylvania, Lima and Kentucky oil fields for the past four years:

	1925	1926	1927	1928
January	56,831	55,630	56,209	52,004
February	60,606	60,394	61,298	57,002
March	60,575	61,644	63,247	57,485
April	63,063	62,019	60,337	56,813
May	59,217	60,580	60,284	62,067
June	61,270	61,131	62,757	58,220
July	62,639	63,206	58,674	57,144
August	69,686	61,815	60,870	57,745
September	62,510	64,639	60,285	.....
October	145,388	161,132	147,036	.....
November	59,350	61,774	57,275	.....
December	57,974	58,755	53,089	.....

Daily Average Shipments

The following table gives daily average shipments from the Pennsylvania, Lima and other fields for the past four years:

	1925	1926	1927	1928
January	157,889	156,056	141,227	146,465
February	160,862	159,488	138,534	167,368
March	154,591	150,239	133,777	159,883
April	151,429	152,371	140,227	172,935
May	146,995	160,998	144,594	180,559
June	149,467	160,257	149,772	188,034
July	161,338	160,045	151,850	189,470
August	161,730	151,929	188,653	192,853
September	156,719	158,915	144,213	.....
October	145,388	161,132	147,036	.....
November	143,582	152,608	150,975	.....
December	150,162	136,428	144,504	.....

Gross Stocks

In the following table will be found the gross stocks of the various lines of the Pennsylvania, Lima and Kentucky oil fields, including oil received from other lines at the close of each month for the past three years:

	1926	1927	1928
January	9,859,170	9,718,008	12,276,710
February	9,579,354	10,119,162	12,180,410
March	9,438,292	10,794,044	12,323,767
April	9,805,851	11,112,295	11,740,120
May	9,531,757	11,359,381	11,602,440
June	9,585,904	11,493,673	11,287,470
July	9,734,687	11,458,128	10,819,331
August	9,058,947	11,989,115	10,236,743
September	9,436,732	12,212,716	.....
October	9,269,806	12,047,861	.....
November	9,257,067	11,939,740	.....
December	9,454,512	12,340,297	.....

Franklin Pipe Line Co.

The following table exhibits the condition of the Franklin Pipe Line at the close of business for the months named and as counted in the stocks and averages reported above:

1927—	Runs	Shipments	Stocks
August	3,057.89	3,713.11	18,719.11
September	3,309.56	2,656.48	19,372.25
October	2,801.32	1,226.90	20,946.53
November	2,746.50	2,220.53	21,472.15
December	2,779.86	1,892.69	22,358.73
1928—			
January	1,886.06	2,434.70	21,810.09
February	2,460.14	3,109.34	21,170.73
March	2,578.86	2,540.33	20,209.26
June	3,153.08	2,779.02	17,922.51
July	2,902.50	3,628.02	17,197.06
August	2,874.11	2,350.13	17,721.04

The Illinois Field

The following table gives the report of the Illinois Pipe Line Co. in Illinois:

Gross stocks, September 1	2,178,792.13
Runs from wells	610,440.73
Other receipts	389,736.07
Regular deliveries	669,692.13
Other deliveries	673,783.03

The amount of Illinois oil run by the Tidewater Pipe Co. in August was 23,634.17 bbls. Deliveries were 62,170.20 bbls. Adding these figures to those of the Illinois Pipe Line Co. makes the runs and deliveries as follows:

1927—	Runs	Deliveries
August	651,276.40	529,331.17
September	619,580.49	433,212.03
October	601,099.25	408,287.13
November	605,621.14	415,185.00
December	677,321.25	397,176.07
1928—		
January	561,759.57	434,147.09
February	573,619.78	450,217.31
March	725,250.82	520,595.03
April	526,013.13	448,282.46
May	632,968.64	522,980.31
June	608,552.49	625,087.13
July	608,286.49	566,678.27
August	639,074.85	671,864.33

Tidewater Pipe Co., Ltd., also delivered in August 209,887.86 bbls. Oklahoma oil.

AVERAGE DAILY RECEIPTS OF CALIFORNIA OIL AT ATLANTIC AND GULF COAST PORTS

Average bbls. per day—	Atlantic Ports: Baltimore	Boston	New York	Philadelphia	Others	Total	Gulf Coast Ports: Galveston	New Orleans Baton Rouge	Port Arthur Sabine Pass	Tampa	Total	Total All Ports
March	8,065	2,258	11,807	10,065	5,358	65,532	.....	.....	.....	.....	.....	65,532
April	9,033	9,167	24,133	18,167	7,867	87,453	.....	.....	.....	.....	.....	87,453
May	19,355	5,387	19,581	16,419	4,774	65,516	.....	.....	.....	.....	.....	65,516
June	11,800	.....	23,367	19,700	9,000	63,867	.....	.....	.....	.....	.....	63,867
July	19,807	2,903	8,774	20,419	2,452	54,356	.....	.....	.....	.....	.....	54,356
August	18,161	3,613	27,774	17,677	2,419	69,645	.....	.....	.....	.....	806	70,451

AVERAGE DAILY IMPORTS OF PETROLEUM AT PRINCIPAL UNITED STATES PORTS

Average bbls. per day—	Atlantic Ports: Baltimore	Boston	New York	Philadelphia	Others	Total	Gulf Coast Ports: Galveston	New Orleans Baton Rouge	Port Arthur Sabine Pass	Tampa	Total	Total All Ports
March	22,829	8,968	112,323	45,516	28,516	178,536	7,831	22,114	6,555	3,829	39,329	217,865
April	18,267	5,800	134,133	32,200	16,067	218,161	7,419	13,291	6,645	1,902	29,268	247,429
May	28,000	7,032	107,484	32,129	21,936	196,581	3,871	24,032	.....	1,904	29,807	226,388
June	24,900	12,233	119,867	41,667	19,300	217,967	1,833	15,567	2,167	.....	19,567	237,534
July	23,484	14,548	111,903	37,678	21,452	209,065	9,355	25,000	.....	774	35,129	244,194
August	25,290	16,323	123,226	21,613	7,194	193,645	.....	28,677	.....	613	29,290	222,935

GROSS PRODUCTION IN UNITED STATES FOR 12 MONTHS

(In barrels of 42 gallons)

		California	Oklahoma	Texas	Kansas	Arkansas	Louisiana	Rocky Mountains	Eastern Fields	Total
September:	Month	19,084,500	24,111,660	18,322,800	3,341,340	3,032,970	2,027,070	2,268,636	3,466,000	75,653,976
	Daily average	635,483	803,722	610,760	111,378	101,099	67,569	75,621	111,774	2,521,132
October:	Month	19,448,823	24,247,053	19,200,098	3,509,169	3,117,298	2,058,889	2,258,885	3,400,000	77,240,245
	Daily average	627,384	782,163	619,358	113,199	100,555	66,416	72,867	109,677	2,491,622
November:	Month	18,516,467	23,083,389	18,628,280	3,313,650	2,906,760	1,956,960	2,234,730	3,302,500	73,942,735
	Daily average	617,216	769,446	620,943	110,455	98,892	65,232	74,491	110,083	2,464,758
December:	Month	18,838,823	22,208,417	19,840,009	3,427,174	2,862,750	1,927,148	2,400,578	3,219,900	74,924,797
	Daily average	610,930	716,400	640,000	110,554	95,576	62,166	77,438	102,868	2,416,924
January:	Month	19,028,228	20,978,320	20,024,981	3,319,325	2,791,922	1,805,015	2,429,375	3,133,000	73,510,166
	Daily average	613,814	676,720	645,967	107,075	90,061	58,226	78,367	101,064	2,371,296
February:	Month	18,038,459	19,294,426	19,645,488	3,079,887	2,571,575	1,759,606	2,230,887	3,166,000	69,786,328
	Daily average	622,016	665,324	677,431	106,203	88,675	60,676	76,927	109,173	2,406,425
March:	Month	19,118,320	20,162,524	21,466,632	3,379,031	2,687,948	1,871,158	2,401,911	3,522,000	74,609,524
	Daily average	616,720	650,404	692,472	109,001	86,708	60,360	77,481	113,613	2,406,759
April:	Month	18,280,729	19,096,920	21,845,428	3,412,260	2,472,600	1,915,020	2,370,810	3,231,000	72,624,767
	Daily average	609,357	636,564	728,180	113,742	82,420	63,835	79,027	107,700	2,420,825
May:	Month	19,331,866	19,443,355	21,191,561	3,367,809	2,843,847	1,926,036	2,525,043	3,619,000	74,248,517
	Daily average	623,609	627,205	683,599	108,639	91,737	62,130	81,453	116,742	2,395,113
June:	Month	19,164,244	18,482,981	18,802,520	3,202,050	3,075,911	2,112,149	2,425,470	3,394,000	71,659,325
	Daily average	638,808	616,099	660,084	106,735	102,530	70,405	80,849	113,133	2,388,644
July:	Month	19,764,458	18,809,498	22,155,335	3,171,548	2,792,139	2,237,738	2,492,586	3,472,000	74,885,362
	Daily average	637,241	606,758	714,688	102,308	90,069	72,185	80,406	112,000	2,415,657
August:	Month	19,444,899	20,195,684	22,201,257	3,147,068	2,711,787	2,223,677	2,561,840	3,503,000	75,987,237
	Daily average	627,255	651,474	716,170	101,518	87,477	71,667	82,640	113,000	2,451,201
	Total 12 months	228,129,886	250,114,228	244,324,399	39,670,301	33,967,507	23,818,468	28,600,745	40,427,400	889,052,934
	Daily average	623,306	683,372	667,553	108,389	92,807	65,078	78,144	110,457	2,429,186

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